the abdominal half of secondaries crossed by three irregularly arched nebulous blackish bands, increasing in intensity and in extent as they approach the outer margin; the basal area also ashy instead of dark brown, and the markings on the basal half of the primaries small and more feebly indicated than those of the external half. Expanse of wings 1 inch 11 lines.

♀. Primaries above bright ultramarine, with a very broad black apical area and external border; secondaries and body blackish brown; wings below more like *A. centaurus* than the male, the arched abdominal bands obsolete, replaced by a continuation of the ordinary pale-edged macular bands. Expanse of wings 1 inch 11 lines.

Six examples, Nikko (*C. Maries*). Coll. B.M.

PROTEIDES CHRYSÆGLIA, sp. n.

Olivaceous brown, the wings with bright golden or yellowish cupreous reflections, and with the basal three fourths densely sprinkled with fulvous hair-like scales; fringe creamy whitish: primaries with an indication of four or five increasing oval discal buff-coloured spots, which, however, are concealed in certain lights by the shot colouring of the wing: head bright fulvous; thorax densely clothed with fulvous hair; palpi jet-black with a broad yellow band. Under surface olivaceous, with slight golden reflections: primaries with the pale buff spots distinct, forming a pyramidal patch, the base of which is expanded and occupies the whole internal border, divided by the median branches; a small bifid yellow spot within the end of the cell, and a few radiating scales of this colour beyond the cell; secondaries with yellowish abdominal area: tibiæ and tarsi bright orange. Expanse of wings 1 inch 10 lines.

Four examples, Yesso (*C. Maries*). Coll. B. M.

9. On the Butterflies of Amurland, North China, and Japan. By H. J. ELWES, F.L.S., F.Z.S.

[Received November 15, 1881].

Our knowledge of the Lepidoptera of N.E. Asia has received large accessions during the last few years; but no attempt has yet been made to enumerate the Butterflies which are found there. It is still far too soon to do this with any thing like completeness, as we know nothing of the insects of China except in a few scattered localities; and when we consider the enormous extent of the country, and the number of years required by so indefatigable a naturalist as the late Mr. Swinhoe to gain a fair knowledge of the birds, it is evident that a good list of the Chinese Butterflies must be for many years impossible. Having recently been requested by Mr. Godman to work up a collection made in China by Mr. Pryer, I soon found that the relation between the Butterflies of North China, Amurland, and Japan was so close that they could only be studied as a whole.

The materials at hand for this purpose were the extensive collections formed by Messrs. Jonas, Pryer, and Fenton in Japan, nearly complete series of which, received through Mr. Janson, are in Mr. Godman's and my own collections. I also received from Dr. Staudinger a nearly complete series of the Amurland Butterflies collected by Christoph; and from Askold I had a majority of the species collected by Jankowsky. In Mr. Godman's collection are also a number of rare species from Amurland. I have further consulted, as far as my time and opportunities allowed, the British-Museum and Hewitson collections. Lastly, and most important of all, I had through Dr. Staudinger's kindness an opportunity of comparing most of the doubtful Japanese forms with specimens in his unrivalled collection, which contains long series of nearly all the species known in Amurland. I do not propose, however, to treat of these in detail, as I hope that they may be shortly monographed in a thorough and complete manner by Dr. Staudinger himself.

The large number of new species which have been recently described from Japan by Mr. Butler, would no doubt lead one to suppose that the fauna of that country was an extremely peculiar one. Knowing beforehand that the birds and plants of Japan have a very close affinity with those of Eastern Asia and Europe, I was not surprised to find that many of these new species were really only varieties of well-known European insects; and the more I studied them, the more convinced I became that a better knowledge of the Japanese Butterflies will confirm my views. Many Japanese insects which at first seemed distinct, proved, on comparison with a really fine Palæarctic collection, which unfortunately does not exist in England, to be at best local forms of them; and the remarkable variations which exist among them tend to prove this. It is, however, as yet impossible to speak with certainty about many of these species, which have been described from single, faded, and imperfect specimens, or even in some cases from drawings; and until the distribution, variations, and conditions of life under which these varieties are produced have been studied on the spot by a competent naturalist well acquainted with the Palæarctic Lepidoptera, any conclusions on the question must be doubtful. The time has gone by when species could be described wholesale without comparison with the allied forms in neighbouring regions; and for this reason I venture to think that such bare descriptions as have been published in various periodicals are not calculated to advance scientific knowledge.

The literature of the Lepidoptera of these countries is extremely scattered and imperfect: with the exception of Bremer's and Ménétriés's lists of the Lepidoptera of Amurland, no extensive papers have been published; and at the time these papers were written Japanese Lepidoptera were unknown.

The most important papers are as follows:—

Bremer & Grey. Beiträge zur Schmetterlings-Fauna der nördlichen China. St. Petersburg, 1853.

Contains a list of species collected near Pekin by Tatarinoff

and Gaschkevitsch, with 2 plates. The remaining novelties in this collection are figured by

Ménétriés. Enumeratio Corporum Animalium Musei Imp. Petropoli. St. Petersburg, 1863.

Quoted as Cat. Mus. Petr.

Bremer. Lepidopteren Ost-Sibiriens. Mém. Acad. Imp. Sciences de St. Pétersbourg, 1864.

Published as a separate paper, and contains a very full list of the Amur Lepidoptera collected by Radde, Maack, and Wulffius, with 8 plates, 4to, and descriptions of many species.

Ménétriés. Lépidoptères de la Sibirie orientale (Schrenk's Amur. Reise, vol. ii.). St. Petersburg, 1859.

Contains a full list of the collections made by von Schrenk and Maack in Amurland and Eastern Siberia, with notes on their geographical distribution and descriptions of new species, many of which are figured on five 4to plates. Quoted as Mén. Schrenk's Reise.

This paper is so lettered in the French edition, which appears to have been published in Mélanges biol. Acad. St. Pétersbourg, 1859, vol. i.

Felder. Wiener entomologische Monatschrift, vol. vi. Vienna, 1862.

Contains a list of species collected at Ningpo by Dr. Muirhead, with several descriptions of new species.

Oberthür. Etudes d'Entomologie. Livraison ii. 1876. Rennes.

Contains descriptions, with beautifully executed figures, of some of the most interesting species collected by the Abbé David in Western and Northern China.

Oberthür. Etudes d'Ent. Livraison v. 1880.

Contains an account of the collection made by Jankowsky at Askold, an island on the coast of Amurland near Vladivostock, with descriptions and beautiful plates of new species.

Motschulsky. Etudes Entomologiques. Neuvième année, 1860. Helsingfors.

Contains an account of a small collection made by Madame Gaschkevitch in Japan, and description of 5 species.

De l'Orza. Les Lépidoptères japonnais à la Grande Exposition Internationale de 1867. Rennes, 1869.

Contains a list of 75 species, many of which are either wrongly identified, or have not been sent from Japan since, and descriptions of some new species.

Besides these separate publications there are a number of scattered descriptions in various periodicals, the most important of which are:—

Murray. Notes on Japanese Butterflies, with Descriptions of new Genera and Species. Entomologist's Monthly Magazine, Dec. 1874.

Contains an account of H. Pryer's Yokohama collection.

Murray. List of Japanese Butterflies. Ent. Mo. Mag. July 1876, p. 33.

A compilation from various sources, in which Mr. Murray shows that he shares my views as to the validity of many of Mr. Butler's species.

W. B. Pryer. List of Rhopalocera of the Chekiang and Kiangsoo provinces, China. Ent. Mo. Mag. Aug. 1877.

A list of 86 species, with an account of a visit to the Snowy Valley near Ningpo, where many new species were found. The novelties in this collection were described partly by Butler and partly by Moore. The collection, with many additional species from other parts of China, is now in Mr. Godman's museum.

Butler. Journal of the Linnean Society, Zool. vol. ix. p. 50. 1862.

A list of the Diurnal Lepidoptera collected by Mr. Whitely at Hakodadi.

Butler. Cistula Entomologica, vol. ii. p. 281 (June 1878).

On Butterflies from Japan collected by Mr. Fenton. Describes several new species.

Butler. Annals and Magazine of Natural History, ser. 5, vii. (March 1881).

Describes a number of new species, and gives a list of 130 species collected by Maries in the district of Nikko, Japan, now in the British Museum.

O. Janson. Cistula Entomologica, vol. ii. p. 153 (May 1877).

Describes the new species in Mr. Jonas's collection, of which a complete set is now in Mr. Godman's museum.

O. Janson. Cist. Ent. vol. ii. p. 269 (June 1878).

Remarks on Japanese Butterflies, and descriptions of five new species figured on plate 5 (uncoloured).

With regard to the geographical limits of this paper, I have determined to exclude Southern and Western China—the first because its climate and fauna is tropical rather than palæarctic, and because our knowledge of the Butterflies is infinitesimal. It is extraordinary that out of the great number of Englishmen who for nearly a century have resided at various ports on the coast of China, not one has ever studied Lepidoptera scientifically, and no traveller has ever collected more than a few specimens in any one place, so far as I am aware. Nearly as much was known by Donovan 90 years ago of the insects of South China as we know now; and there is perhaps hardly another place in the world of equal interest and with half the facilities for travel which has been so much neglected by naturalists. Of Western China we know nothing except from the travels of that excellent and intrepid naturalist the Abbé David. It is much to be deplored that his extensive collections of insects have lain unnoticed for so long in Paris. M. Oberthür, of Rennes, has done much to give an idea of their novelty and interest. It is evident, however, that this fauna must be studied in connexion with that of Sikkim,

with which, as I have shown in Proc. Zool. Soc. 1873, p. 645 *et seq.*, it is so intimately connected.

The same remark applies to Formosa, which I have also excluded. Of the Butterflies of North China we know almost nothing; but the little we know shows what a rich harvest is to be reaped there by a collector. The countries between China proper and Amurland are *terræ incognitæ*; but Amurland itself has been recently well worked by several good entomologists: Messrs. Christoph, Dörries, Jankowsky, and Hedemann have all collected largely in various localities, from the Schilka river on the Upper Amur, down to Blagovestchensk, Raddefskaia or Raddefka, and Khabarofka, all of which are situated on the main stream. The Bureija Mountains north of the river also yielded a rich collection to Radde; but do not seem to have been revisited. That part of the river which lies between the junction of the Ussuri at Khabarofka and Nikolaiefsk at the mouth of the Amur does not seem to have been much worked, the climate becoming much more severe on the north-east coast.

The southern part of the maritime province near Vladivostock and the island of Askold seems to have many species not occurring on the Amur which were previously only known from Japan; and it is probable that the insects of Corea are very similar. An account of Christoph's journey, giving interesting particulars of the country, is published in the 'Stettiner entomologische Zeitung' for 1870, pp. 201 and 401. I have included one or two species which seem to occur only on the Sea of Ochotsk to the northward of Amurland proper; but very little is known of that region or of the great island of Saghalien.

The only part of Japan which seems to have been at all thoroughly worked by lepidopterists is the neighbourhood of Tokio and Yokohama; and in most cases no exact indication of locality is given for Japanese insects. Of the great southern islands of Sikok and Kiusiu little or nothing is known, though it is possible that some of De l'Orza's species came from there. The climate of Southern and Central Japan is so different from that of the north, that the large proportion of species of Indian affinity which is found there can be easily accounted for; and when we consider the great extent of mountainous unexplored country, it is clear that much must be done before any thing like a good account of the Lepidoptera of Japan can be given.

The climate of N. China and Amurland is generally very cold in winter, the Peiho and Amur rivers being closed by ice for several months. In the summer it is warm and wet on the coast region, but much drier in the interior, especially in the north of China and Mantchuria. South of Shanghai the winter becomes so much milder that tropical forms of animal and vegetable life rapidly take the place of temperate ones; but some species of thoroughly tropical affinities and appearance extend far into North-eastern Asia and Japan, in the same way that some tropical birds migrate to Amurland and North China during the breeding-season.

In this paper I have taken the genera for the most part as I found

them, without attempting to study the generic affinities of the species, as this would be a work beyond my time or power. With respect to the species described by old authors, I have also as a rule accepted the verifications of previous writers, believing that when a species is well known under any name it is better to adhere to it than, for the sake of a few years' priority, to make a change, founded as such changes must often be on very doubtful identifications of descriptions. In many genera, such as *Colias*, *Argynnis*, or *Lycæna*, the best descriptions by modern authors are of very little use in making out doubtful species; how much more, then, must it be the case when old authors are referred to. Only good figures or the examination of the type specimens can really be depended on; and even then doubts will often crop up as to what the insects are. For instance, who could follow Mr. Butler's descriptions of species of *Terias* in the Trans. Ent. Soc. 1880, p. 198, without the plates? and who could form an opinion of the species of Japanese *Colias* from descriptions, however elaborate, of such species as *C. elwesi*, *C. pallens*, or *C. subaurata*? With regard to the species included in Staudinger's Catalogue, I have adopted his nomenclature, as I believe that it is as nearly accurate as such a work can possibly be made, and it is generally adopted by European lepidopterists. There must be numerous errors in my work, especially as regards the Hesperidæ, inseparable from a paper which cannot be written at home with the whole of the specimens before one, but must be put together from notes often taken under circumstances unfavourable to accuracy. For these errors and for errors of judgment I beg the indulgence of those who may have occasion to refer to my work; and I assure them, that if any of my conclusions are faulty, as undoubtedly some must be, I have endeavoured to put together the scattered materials at my disposal with a regard for scientific truth only, and not with any wish to throw discredit on the observations of others. Finally, I must express my thanks to Mr. Godman and Dr. Staudinger for the great facilities which they have given me in examining their collections (from every point of view the two best in the world), and to Messrs. Kirby and Butler, of the British Museum, whose time I have so often taken up in a manner which I think most unreasonable, but which under the present regulations of the Museum is unavoidable.

On making an analysis of the distribution of the species I get the following results, which, though they must be considered as approximate only, will, I believe, give a very fair idea of the character of the Butterflies in each country.

AMURLAND.

Species common to and characteristic of the Palæarctic region	85
Peculiar to the Eastern part of this region, but mostly of Palæarctic genera	80
Belonging to genera characteristic of the Indian region, or cosmopolitan in Old World	10
Common to Amurland and Japan, 78.	175

China.

Species common to and characteristic of the Palæarctic region	22
Peculiar to the Eastern part of this region, but mostly belonging to genera of Palæarctic affinity	46
Belonging to genera characteristic of the Indian region, or cosmopolitan in Old World	68
Common to China and Japan, 67.	136

Japan.

Species common to and characteristic of the Palæarctic region	41
Peculiar to the Eastern part of this region, but mostly belonging to genera of Palæarctic affinity	62
Common to Indian region, or cosmopolitan in Old World	44
Common to Amurland, China, and Japan, 33.	147

The genera peculiar to the Eastern Palæarctic region are :—

Sericinus. Allied to *Thais*?, containing 2 or 3 species peculiar to North China.

Lühdorfia. Allied to *Thais*, containing 1 species found in the coast-region of South Amurland, China, and ?Japan.

Paraplesia. A monotypic genus of Nymphalidæ, peculiar to the Ningpo hills.

Genus novum?, allied to *Argynnis* and *Melitæa*, peculiar to North China, 1 species (*A. maculata*).

Palæonympha. A monotypic genus of Satyridæ, peculiar to the Ningpo hills.

Satsuma. A section of *Thecla*, containing 1 species in Amurland and Japan, allied to N.-American insects.

Niphanda. A genus of uncertain affinity ; 1 species in Amurland, China, and Japan.

Genera common to and characteristic of the Palæarctic Region :—

Parnassius. 7 species, of which only one occurs in Japan, and none are as yet known in North China, though it doubtless occurs there.

Colias. 4 or 5 species, in Amurland and Japan.

Anthocharis. 3 species, of which one, allied to a Californian species, occurs in Japan and China, one in Amurland, and one in China.

Aporia. 1 species in Japan, and 1 peculiar to Amurland.

Leucophasia. 1 or 2 species in Amurland, Japan, and China. Only one other known species of the genus exists, which is local in Europe.

Gonepteryx. 1 or 2 species in Amurland, Japan, and China.

Polyommatus. 4 species, of which 3 are confined to Amurland, one also in Japan and China.

Argе. 1 species confined to Amurland and China.
Argynnis. Many species in Amurland, Japan, and China.
Melitæa. Several species in Amurland, 2 of which extend to Japan, but only 1 to China.
Erebia. Several species in Amurland, of which one extends to Japan, but none are known in China.
Satyrus. Only 1 species in Amurland and Japan.
Epinephele. 1 species only in Amurland and Japan.
Cœnonympha. 4 species, of which one or two extend to Japan and China.
Triphysa. 1, or perhaps 2, species in Amurland, and probably Japan.
Œneis. 4 species in Amurland and China.

Genera common to and characteristic of the Himalayan subregion :—
A section of *Thecla* represented by *T. smaragdina*. 4 species in Amurland and Japan.
Lethe. 5 or 6 species in Amurland, Japan, and China.
Neope. 2 or 3 species in Japan and China.

With regard to the Hesperidæ, I think it better to omit the genera when considering questions of geographical distribution. Many of of them are so obscure and apparently so much more cosmopolitan than other families, that it is difficult to base sound ideas upon them. Speaking generally, however, I may say that *Ismene*, represented by three species in China, Japan, and Amurland, is of Indian affinity. *Nisoniades* is represented by one species only, common to Amurland, China, and Japan, which comes closest to N.-American species.

In the southern part of our limits the largest proportion of the Hesperidæ are tropical, whilst in Amurland they nearly resemble European species or are of more or less peculiar forms. Generally the family is well represented in all parts of the region.

Geographical Distribution of Butterflies in N.E. Asia.

Species.	Amurland.	China.	Japan.	General.
Papilionidæ.				
Papilio machaon	*	* (var. asiatica.)	* (var. hippocrates.) (var. asiatica.)	Palæarctic & Nearctic regions.
xuthus	*	*	*	
bianor	.....	*		
maacki	*	*	*	
dehaani	.....	.....	*	
protenor	.....	*	.....	India, South China.
demetrius	.....	*	*	
macilentus.....	.....	*	*	
alcinous.....	.....	.....	*	
mencius.....	.....	*		

Geographical Table (continued).

Species.	Amurland.	China.	Japan.	General.
PAPILIONIDÆ (*continued*).				
Papilio aristolochiæ...	....	*	.....	India &c.
pammon	.....	*	*	India, S. China, &c.
helenus	.....	.....	*	do.
memnon	.....	.....	*	do.
sarpedon	.....	*	*	India &c.
agamemnon	.....	*	*?	do.
erithonius	.....	*	.....	do.
alebion	.....	*		
mariesi	.....	*		
Sericinus telamon ...	.....	*		
telmona	.....	*		
Lühdorfia puziloi	* (Coast-region only.)	*?	*?	
Parnassius nomion ...	*	.....	.....	Siberia.
tenedius	*			
eversmanni	* (North-east only.)	.....	.....	Alaska.
bremeri	*			
felderi	*			
stubbendorfi	*			
glacialis	.....	.....	*	
PIERIDÆ.				
Aporia crataegi	*	.....	*	Europe; N. Asia.
hippia	*			
Pieris brassicæ, var.				
crucivora	*	*	*	
melete	*	*?	*	
napi	*	.....	*	Palæarctic & Nearctic.
daplidice	*	*	.....	Palæarctic.
gliciria	.....	*	.....	India, S. China.
Anthocharis scolymus.	.....	*	*	
bambusarum	.....	*		
cardamines	*	.....	.....	Palæarctic.
Leucophasia sinapis...	*	.....	*	do.
var. amurensis.	*	*	*	
Rhodocera rhamni ...	*	*	*	Palæarctic.
var. aspasia ...	*	.....	*	
Colias palæno	*	.....	*	Arctic regions generally.
hyale	*	*	*	Palæarctic.
melinos	*			
aurora	*			
?Colias erate	*?	.....	*?	
Terias hecabe	.....	*	*	Indian region, &c.
læta, var. jægeri...	.....	*	*	India, &c.
bethesba	.....	.....	*	
anemone	.....	*	*	
mandarina	.....	.....	*	

Geographical Table (continued).

Species.	Amurland.	China.	Japan.	General.
LYCÆNIDÆ.				
Miletus hamada	.....	*	*	Sikkim?
Lampides?, sp.	.....	*		
Lycæna?, sp. nova ...	.....	.....	*	
Curetis acuta	.....	*	*	
truncata.....	.....	*		
Amblypodia japonica .	.....	.....	*	
turbata	.....	.....	*	
Niphanda fusca	*	*	*	
Dipsas lutea	* Found only in the littoral provinces.	.....	*	
sæpistriata	*	.....	*	
jonasi.....	*	.....	*	
raphaelis	*			
michaelis	*			
Thecla smaragdina ...	*	*	*	
japonica	*	.....	*	
orientalis	*	.....	*	
saphirina	*			
cærulea	.....	*		
avidiena.....	.....	*		
micans	.....	*		
arata	*	*	*	
attilia.....	*	.....	*	
enthea	*	.....	*	
w-album?	.....	*	.....	Palæarctic region.
grandis	.....	*		
spini?	.....	*?	*?	
pruni.....	*	.....	.....	Palæarctic region.
mera	.....	.....	*	
prunoides	*			
phyllodendri.....	*			
rubi	*	.....	*?	Palæarctic & Nearctic.
Satsuma? fridvalskyi .	*	.....	* (ferrea)	
Polyommatus phlæas .	*	*	*	Palæarctic & Nearctic.
virgaureæ.....	*	.....	.....	Palæarctic.
amphidamas.....	*	.....	.....	do.
hippothoë	*	.....	.....	do.
Lycæna bætica.....	.....	*	*	Palæarctic & Indian regions.
argiades.....	*	*	*	Palæarctic & Nearctic.
fischeri	*	*	.....	Siberia.
argia	*	*	*	India, S. China, &c.
lysimon.....	.....	*	*?	India, S. Europe.
cleobis	*			
argus.....	*	*	*	Palæarctic & Nearctic.
ægon	*	.....	*	Palæarctic region.
orion	*	*	.....	do.
baton.....	*	.....	.....	do.
astrarche	*	.....	.....	do.
icarus.....	*?	.....	.....	do.
eros	*?	.....	.....	do.
amanda.....	*	.....	.....	do.
eumedon	*	.....	.....	do.

Geographical Table (continued).

Species.	Amurland.	China.	Japan.	General.
LYCÆNIDÆ (*continued*).				
Lycæna biton	*			
argiolus.....	*	*	*	Palæarctic region.
minima	*	.....	.....	do.
semiargus	*	.....	.....	do.
cyllarus	*	.....	.....	do.
lycormas	*	.....	*	
arionides	*	.....	*	
arion	*	.....	.....	Palæarctic region.
pryeri	*	.....	*	
euphemus	*	.....	*	Palæarctic region.
LEMONIIDÆ.				
Libythea lepita.....	.....	.....	*	Himalaya.
Zemeros flegyas	.....	*	.....	Indian region.
NYMPHALIDÆ.				
Charaxes narceus	.....	*		
Dichorragia nesimachus	.....	.....	*	Himalaya.
Apatura iris	*	.....	.....	Palæarctic region.
ilia.....	*	*	*	do.
Euripus charonda ...	.....	.....	*	
japonica.....	.....	.....	*	
Adolias ? schrenki ...	*			
Hestina assimilis.....	.....	.....	*	India.
Paraplesia adelma ...	.....	*	.....	Genus peculiar to China.
Athyma sulpitia	.....	*		
pryeri	.....	*		
Limenitis nycteis.....	*			
populi	*			
sydyi	.....	.....	*?	Siberia.
var. latifasciata	*			
amphyssa	*	.....	*?	
helmanni	*	.....	*?	Siberia.
? var. homeyeri.	*			
sibilla	*	.....	*	Palæarctic region.
sinensium	.....	*		
Neptis? raddei.....	*			
Neptis thisbe.....	*			
philyra	*			
var. ? speyeri...	*			
philyroides	*			
aceris.....	*	*	*	Palæarctic & Indian regions.
lucilla	*	.....	*	Palæarctic region.
pryeri	*	*	*	
sangaica.....	.....	*		
eurynome	.....	*		
alwina	.....	*		
excellens?	.....	.....	*	
Junonia lemonias.....	.....	*?	*?	Indian region.

Geographical Table (continued).

Species.	Amurland.	China.	Japan.	General.
NYMPHALIDÆ (*continued*).				
Junonia almana	.....	*	.....	Indian region.
asteria	.....	*	.....	do
orithya	.....	.....	*?	do.
Vanessa levana	*	*	*	Palæarctic region.
burejana	*	.....	*	
l-album	*	.....	*	Palæarctic & Nearctic.
c-album	*	.....	*	do.
xanthomelas	*	*	*	N. Asia, E. Europe.
urticæ	*	.....	*	Palæarctic region.
io	*	.....	*	do.
antiopa	*	.....	*	Palæarctic & Nearctic.
cardui	*	*	*	General.
c-aureum	.....	*	*	
pryeri	.....	*	*	
callirhoë	*	*	*	Asia.
charonia	.....	*	*	do.
Melitæa maturna	*	.....	.....	Palæarctic region.
aurinia	*	.....	.....	do.
didyma	*	.....	*?	do.
dictynna	*	.....	.....	do.
arcesia	*			
phœbe	*	*	*	
trivia	*	.....	.....	Palæarctic region.
athalia	*	.....	*	do.
aurelia	*	.....	.....	do.
plotina	*			
Argynnis ? maculata	.....	*	.....	Genus peculiar to N. China.
Argynnis niphe	.....	*	*	India.
childreni	.....	*	.....	do.
selenis	*			
selene	*	.....	.....	Palæarctic region.
oscarus	*			
angarensis	*			
sp. nova ?	.....	.....	*	
freija	*	.....	.....	Arctic regions.
thore	*	.....	.....	Europe & Asia.
daphne	*	*	*	Palæarctic region.
ino	*	.....	.....	do.
aglaia	*	.....	*	do.
adippe	*	*	*	do.
var. ? nerippe	.....	*	*	
anadyomene	*	*	*	
sagana	*	*	*	
paphia	*	.....	*	Palæarctic region.
laodice	*	*	*	Asia & E. Europe.
ruslana	*	.....	*	
DANAIDÆ.				
Danais tytia	*	*	*	Himalayas.
chrysippus	.....	*	*	General.

Geographical Table (continued).

Species.	Amurland.	Chiua.	Japan.	General.
MORPHIDÆ.				
Thaumantis howqua..	.....	*		
SATYRIDÆ.				
Melanargia halimede .	*			
var. meridionalis.	.....	*		
Debis europa.....	.....	*	.....	Indian region.
Melanitis leda	.....	*?	*	do.
Mycalesis gotama.....	.....	*	*	
perdiccas	.....	*	*	
Ypthima baldus	*	*	*	
motschulskyi.....	*	*	*	Himalayas.
zodia	.....	*	*	
megalomma	.....	*		
Palæonympha opalina.	.....	*	.....	Genus peculiar to China.
Erebia medusa	*	.....	.....	Palæarctic region.
parmenio	*			
sedakovii	*	.....	*	
cyclopius	*			
tristis.....	*			
discoidalis.....	* (North coast only.)	.....	.....	Arctic America.
saxicola	.....	*		
ero	*			
edda	*			
ajanensis	* (Coast-region.)			
embla.....	* (North coast.)	.....	.....	Arctic regions, Old World.
Œneis sculda	*			
jutta	*	.....	.....	Arctic regions, Old World.
urda	*			
mongolica	.....	*		
Satyrus dryas	*	.....	*	Palæarctic region.
Pararge achine.....	*	.....	*	do.
deidamia	*	*	*	
Pararge ? maackii.....	*	.....	*	
Epinephele hyperanthus	*	.....	*?	Palæarctic region.
Lasiommata (Lethe?) bremeri	.....	*		
syrcis.....	.....	*		
lanaris	.....	*		
satyrina.....	.....	*		
epimenides	*	.....	*	
var. epaminondas.....	*			
sicelis.....	.....	*	*	
schrenkii	*	.....	*	
diana.....	.....	.....	*	
whitelyi.....	.....	.....	*	
Neope gaschkevitschii.	.....	*?	*	

Geographical Table (continued).

Species.	Amurland.	China.	Japan.	General.
SATYRIDÆ (*continued*).				
Neope ? calipteris.....	.....	.....	*	
Neope ? muirheadi ...	.....	*		
Triphysa nervosa.....	.....	.....	*	
var. ? albovenosa.	*			
Cœnonympha œdipus..	*	.....	*	Palæarctic region.
amaryllis	*	*	.....	do.
hero	*	.....	.....	do.
iphis	*	.....	.....	do.
HESPERIDÆ.				
Casyapa thrax	.....	*	.....	Indian region.
Tagiades nymphalis...	*	*		
Ismene benjamini.....	.....	*	*	Himalayas.
septentrionalis ...	.....	*		
aquilina.....	*	.....	*	
Hesperia ? alexis	.....	*		
Plesioneura curvi-fascia.....	.....	*		
bifasciata	.....	*		
Plesioneura ? phodicus	.....	*		
Pterygospidea maculosa	.....	*		
sinica.....	.....	*	*	
Daimio tethys	*	*	*	
Antigonus vasava	.....	*	*?	Himalayas.
Pamphila mencia.....	.....	*		
sinensis ?	.....	*		
mathias.....	.....	*	*	
oceia	.....	*		
lamprospilus.....	.....	*	*	
varia	.....	.....	*	
guttata	.....	*	*	
fortunei ?	.....	*		
pellucida	.....	.....	*	
jansonis ?	.....	.....	*	
Pamphila ? confucius.	.....	*		
Hesperia sylvanus ...	*	*	*	Palæarctic region.
comma	*	.....	*	do.
sylvatica	*	.....	*	
leonina ?	.....	.....	*	
ochracea	*	.....	*	
rikuchina ?	.....	.....	*	
lineola	*			
Hesperia ? flava	.....	*	*	
Hesperia ? maro	.....	*	.....	Palæarctic region.
Carterocephalus palæmon	*	.....	.....	do.
sylvius	*	.....	.....	do.
argyrostigma.....	*			
Cyclopides morpheus.	*	.....	.....	Palæarctic region.
ornatus	*			
unicolor.....	.....	*	*	

Geographical Table (continued).

Species.	Amurland.	China.	Japan.	General.
Hesperidæ (*continued*).				
Pyrgus inachus.....	*	*?	*	
gigas	*			
speyeri	*			
cribellum	*	.....	.....	Palæarctic region.
alveus	*	.....	.....	do.
serratulæ	*	.....	.....	do.
malvæ	*	.....	.....	do.
orbifer ?.....	*?	.....	.....	do.
cynaræ ?	*?			
Syricthus maculatus ..	*	*	*	
Scelothrix zona ?	.....	*?		
Nisomades tages	*	.....	.....	Palæarctic region.
montanus	*	*	*	

Papilio machaon, Linn. S. N. x. p. 462.

Var. asiatica, Mén. Enum. i. p. 70 (1855).
P. asiatica, Butl. Ann. & Mag. Nat. Hist. 1881, vii. p. 133.

Var. hippocrates, Feld. Verh. zool.-bot. Ges. xiv. p. 314.
P. hippocrates, Butl. Ann. & Mag. Nat. Hist. 1881, vii. p. 133.

Bureiga (*Radde*); Ussuri (*Maack*); Askold (*Jankowsky*); Japan (*Maries*); Ningpo, Shanghai (*Pryer*); Pekin (*Bremer*); Japan (*Maries, Pryer*); Hakodadi (*Whitely*).

The forms of *P. machaon* found in N.E. Asia seem to be similar to the European ones, though usually larger. In Kamtschatka, according to Ménétriés, the variety which he calls *asiatica* (also found in Japan, the Himalaya, and China) occurs. It differs generally in the broader black band and markings, which, however, vary extremely, and gradually increase until in the var. *hippocrates* (which I have only seen from China and Japan) the yellow is half obliterated by the black markings. After comparing numerous specimens, I am unable to see where a line can be drawn to separate these three forms, which, taken singly, are distinct enough.

P. xuthus, Linn. S. N. xii. p. 751.

Var. *xuthulus*, Brem. Lep. Ost-Sib. p. 4, t. i. fig. 2.

Bureija (*Radde*); Ussuri (*Maack*); Askold (*Jankowsky*); Shanghai (*Pryer*); Japan (*Pryer, Maries*); Pekin (*Bremer*); Ningpo (*Pryer*).

Very variable in size and in the amount of black on the upperside, some specimens from Japan having the yellow much filled up in the same way as in *P. machaon*, var. *hippocrates*. The small form *P. xuthulus* is now shown to be only a seasonal form of *P. xuthus*.

The green-tailed Papilios found in China and Japan are very puzzling, and so variable that it is not easy to say where one species

begins and another ends. Indeed, I think it very probable that they are all forms of one species from a broad point of view.

In the Himalayas this is not so; for out of hundreds of specimens which I have seen, I have found none which could not be easily distinguished; and in Sikkim no less than four species—viz. *P. paris, arcturus, ganeesa,* and *krishna*—are all found together.

In the south of China *P. paris* occurs, but, as far as I know, not within my present limits.

In Central China we find

Papilio bianor, Cr. Pap. Ex. ii. t. 103. f. C (1779).

I have seen specimens from N. China (? Shanghai, *Fortune*), Ningpo? (*Pryer*), and Mongolia? (*Mus. Godman and Salvin*). Both sexes are of a less brilliant green than the Japanese and Amur forms. The male is distinguished by a black velvety patch on the fore wing.

Further north we have:—

P. maacki, Mén. Schrenk's Reise, p. 10, t. i.,

which occurs in the Bureija mountains (*Radde*), on the Ussuri (*Maack*), in Askold (*Jankowsky*), and in Central Japan (*Fenton, Pryer*). In Amurland it has a small and very different-looking seasonal form, *P. raddei,* Brem. Lep. Ost-Sib. p. 3, t. i., which has been, I believe, proved by breeding to be the spring brood.

From Newchwang, in N. China, I find a specimen in Pryer's coll. which is rather larger than the average of those from the Amur, and has the blackish band on the hind wing less distinct.

In Japan it seems to vary little from the Amur type; but there are three other forms which may be varieties or species, namely:—

P. dehaanii, Feld. Verh. zool.-bot. Ges. xiv. p. 323 (1864).

P. alliacmon, De l'Orza (ex Boisd.), Lep. Jap. p. 9 (1869).

This is common in Central Japan (*Maries, Pryer*), and occurs at Hakodadi (*Whitely*). What is perhaps a dwarfed form, or seasonal variety of it is

P. bianor, var. japonica, Butler, Journ. Linn. Soc., Zool. ix. p. 50 (1866).

P. japonica, Butler, Ann. & Mag. Nat. Hist. ser. 5, vii. p. 133,

in which I can see no characters by which it can be certainly known.

A new species lately described, or to be described, is

P. tutanus, Fenton[1].

At first sight easily distinguished by the broad yellowish band on underside of hind wing. This character, however, is variable, and in some specimens is almost absent, when the insect nearly resembles *P. maacki.* Specimens of *P. maacki* in Dr. Staudinger's collection have this band as strongly marked as in *P. tutanus.*

The next group of Papilios is that represented in the south and centre of China by the Indian species

[1] *Vide antea,* p. 855.

Papilio protenor, Cr. Pap. Ex. i. t. 49. f. A, B (1779),

which I have seen from Formosa, Hongkong, and is recorded by Felder from Ningpo. It is quoted, probably by mistake, by Motschulsky from Japan, where it is represented by

P. demetrius, Cr. Pap. Ex. iv. t. 385 (1782).

Common in Central Japan (*Pryer, Jonas*), N. China (*Sommer*), and occurring in the Fungwhan hills near Ningpo, whence specimens collected by Pryer are in Godman's and my own collection, which agree very well with Japanese specimens. The larva, according to De l'Orza, feeds on orange-trees.

P. macilentus, Janson, Cist. Ent. ii. p. 158, t. v. fig. 1 (1877).

The male of this resembles generally that of the next species in colour, but is easily distinguished by the long narrow wings and long tails. The female is larger, and seems rare. It occurs at Oyama (*Jonas*), and elsewhere in Japan.

Forms of this or of the last species, probably not worthy of separation, are *P. tractipennis*, Butler, Ann. & Mag. Nat. Hist. ser. 5, vii. p. 139, from Nikko (*Maries*), and *P. scævola*, Oberthür, Et. Ent. iv. p. 37 (1879), from China, which is identified with *P. macilentus* by Mr. Butler.

P. alcinous, Klug, Neue Schmett. t. i. (1836).

P. spathatus, Butler, Ann. & Mag. Nat. Hist. ser. 5, vii. p. 139.

Japan (*Pryer, Jonas*); Yesso (*Maries*).

This species has the male black, with brown spots on the hind wings and tails beneath; whilst the female is of a pale fawn, or light brown colour. It is common in Japan; but I cannot see any good reason for distinguishing from it the species lately described by Mr. Butler, and I believe that a good series of specimens in this, as in other cases, would break down the characters on which he relies. The larva of *P. alcinous*, according to De l'Orza, feeds on *Aristolochia*.

Another form which Felder, as I think, rightly says is probably a local variety of *P. alcinous*, is

P. mencius, Feld. Wien. ent. Mon. vi. p. 22 (1862).

? *P. plutonius*, Oberthür, Et. Ent. ii. p. 16, t. iii. fig. 2 (1876).

Described by Felder from Ningpo. I have specimens from Shanghai (*Pryer*), and have seen it from Kiukiang (*Maries*).

If *P. plutonius*, Ober., is the same, as I suspect, its range extends to North China, probably near Pekin (*David*).

It differs from *P. alcinous* principally in having the spots pink instead of fawn, and in other characters which seem variable. The sexes, however, are much less distinct in colour than in *P. alcinous*, the males being paler and the females darker.

P. aristolochiæ, Fabr. Syst. Ent. p. 443 (1775).

Specimens from the Ningpo hills (*Pryer*) are smaller than usual.

Papilio pammon, Linn. Mus. Ulr. p. 189 (1764).

P. pammon, var. *borealis*, Feld. Wien. ent. Mon. vi. p. 22 (1862).

Japan (*De l'Orza*), Yokohama (*Pryer*); Shanghai (*Pryer*), Ningpo (*Felder*).

I cannot follow in Shanghai specimens the characters by which Felder separates the variety *borealis*; the female, however, differs from any I have seen in the absence of the white spots on the hind wing above, which are replaced by pinkish.

P. helenus, Linn. Mus. Ulr. p. 185 (1764).

P. nicconicolens, Butler, Ann. & Mag. Nat. Hist. ser. 5, vii. p. 139.

The Japanese insect, which seems rare, differs, according to Butler, in the form of the spots on the hind wing. I have, however, compared the type of *P. nicconicolens* (a name which should be rejected, as barbarous) with Indian and Chinese specimens, and think that it can at most be considered as a variety of *helenus*, some specimens of which from Hongkong and Darjeeling are very near it.

P. memnon, Linn. Mus. Ulr. p. 193 (1764).

P. thunbergii, Siebold, Hist. Nat. Jap. p. 16 (1824).

P. thunbergii, Sieb., Butler, Ann. & Mag. Nat. Hist. ser. 5, vii. p. 133.

If this species presented a constant variation in Japan, there might have been some reason for separating it; but the few specimens I have seen from Japan are not all alike, and vary as they do elsewhere. The females seem to be tailless in Japan. I have not seen it from Central or North China.

P. sarpedon, Linn. Mus. Ulr. p. 202.

P. teredon, Feld. Reise Nov. Lep. i. p. 61 (1865).

Not rare in Central Japan.

The form described by Felder as *P. teredon* is from Ceylon; and I cannot see why the Japanese insect, which appears identical with Himalayan specimens, should be referred to it, as has been done by Mr. Butler in his list of the Butterflies of Nikko (Ann. & Mag. Nat. Hist. ser. 5, vii. p. 133).

P. agamemnon, Linn. Mus. Ulr. p. 202.

Recorded by De l'Orza from Japan; but I have seen no specimens from there, though it occurs in Pryer's collection from Shanghai.

P. erithonius, Cram. Pap. Ex. iii. t. 232 (1782).

I have only seen specimens from Foochow (*Pryer*).

P. alebion, Gray, Cat. Lep. B. M. i. p. 30, t. xii. fig. 6.

North China, ? Shanghai (*Fortune*); Kiukiang (*Maries*).

The Chinese representative of *P. glycirion*.

P. tamerlanus, Oberthür, Et. Ent. ii. p. 13, t. ii. fig. 1 (1876), from Moupin, which I have seen in Dr. Staudinger's collection, seems the same as *P. alebion*.

Papilio mariesii, Butler, Ann. & Mag. Nat. Hist. ser. 5, vii. p. 23, t. iv. fig. 4.

Described from a single specimen collected by Maries at Kiukiang. Very near the last, but distinguished by the absence of the submarginal band on fore wings and narrower discal belt of hind wings. I notice that in a series of *P. glycerion* these bands are variable in breadth and distinctness.

Sericinus telamon.

♂ *Pap. telamon*, Don. Ins. China, t. xxvii. fig. 1 (1798); Mén. Cat. Mus. Petr. t. vi. fig. 3.

S. montela, Gray, P. Z. S. 1852, p. 71; Cat. Lep. B. M. i. p. 78, t. xiii. figs. 1, 2.

♀ *S. fortunei*, Gray, P. Z. S. 1852, p. 72; Cat. Lep. B. M. i. p. 79, t. xiii. fig. 5.

♀ *S. fasciatus*, Brem. Grey, Schm. nördl. China, p. 5; Mén. Cat. Mus. Petr. t. vi. fig. 1.

♀ *S. cressoni*, Reak. Proc. Ent. Soc. Phil. iii. p. 499 (1864).

S. telmona, Gray, P. Z. S. 1852, p. 72; Cat. Lep. B. M. i. p. 78, t. xiii. fig. 3.

♀ *S. greyi*, Brem. Grey, Schm. nördl. China, p. 6, t. i. fig. 2.

There is considerable difficulty in deciding as to the species of this genus, unless one has a series from various parts of China. The specimens which I have seen vary extremely among themselves, especially as regards the presence or absence of red spots; and these can no more be considered as specific characters than in *Parnassius*. I should suppose, however, that there are two distinct forms:—one, *S. telamon*, Don. ♂, *S. fasciatus*, Brem. & Grey ♀, inhabiting the neighbourhood of Pekin; and the other, *S. telmona*, Gray, which appears to be found in the same part of China. Neither of them, as far as I know, occurs in Central China.

Luehdorfia puziloi, Ersch.

L. puziloi, Oberthür, Et. Ent. v. p. 12, t. v. fig. 2 (1880).

This is one of the most interesting and beautiful additions to our knowledge of the Palæarctic fauna which have been recently made. It appears to be common in spring on the coast-region of Amurland at Nikolaiefsk, Vladivostock, and Askold, and is reported to occur also in Japan.

The female has a sort of pouch on the abdomen, analogous to that of the female *Parnassius*; but, according to M. Oberthür, this is probably not developed till after copulation has taken place. The species is also said to occur in North China.

Parnassius nomion, Fisch. de Waldh. Ent. ii. p. 242, t. vi.

This species seems to be the eastern representative of *P. apollo*, to which indeed it comes very close. In all the specimens I have seen from the Amur, and, according to Bremer, in the numerous varieties which he has examined, it may be distinguished from the Siberian forms of *P. apollo* by the dark borders of the wings.

Parnassus bremeri, Feld. MSS., Brem. Lep. Ost-Sib. p. 6, t. i. figs. 3, 4.

Found in many parts of the Amur region flying in thick woods, as I am informed by Dr. Staudinger.

It is variable in the amount of red spots, like other members of the genus, the common form having no red spots on the fore wing like Bremer's fig. 3. His plate is wrongly numbered and does not agree with the text.

P. tenedius, Eversm. Bull. Mosc. 1851, ii. p. 621; Mén. Schrenk's Reise, p. 14, t. i. fig. 3, ♀.

Of this very rare species I have seen specimens in Dr. Staudinger's collection from the Schilka. It appears to be rather an inhabitant of Central Siberia than of Amurland.

P. eversmanni, Mén. Cat. Mus. Petr. i. p. 73, t. i. fig. 2.

? *P. wosnesenskii*, Mén. loc. cit. p. 74, t. i. fig. 3.

Of this extremely rare species I have only seen specimens in Mr. Godman's, Dr. Staudinger's, and the Hewitson collection. It appears to inhabit the north-eastern parts of Asia and N.W. America, but has not been found by any recent collectors.

P. glacialis, Butler, Journ. Linn. Soc., Zool. ix. p. 50 (1866).

Discovered by Whitely at Hakodadi, and found also in Central Japan[1]. It is nearly allied to *P. stubbendorfi*, which varies considerably; but all the Japanese specimens I have seen may be readily distinguished by the different shade of white, blacker veins, and deeper-black border on inner margin of hind wings.

I think there seems little doubt that this insect was described as *P. citrinarius* by Motschulsky (Bull. Mosc. 1866, i. p. 189), as his description seems to apply very well; but as this cannot be proved without seeing the type, I refrain from changing the name, especially as the priority of date is doubtful.

P. stubbendorfi, Mén. Desc. Ins. Lehm. p. 57, t. vi. fig. 2.

Seems to be common in the Amur region and at Askold.

P. felderi, Brem. Lep. Ost-Sib. p. 6, t. i. fig. 5.

Discovered in the Bureija by Radde, and taken at Raddefskaia on the Amur by Christoph, whence numerous specimens are in Dr. Staudinger's collection. It is allied to the *P. mnemosyne* group; but is readily distinguished by the bright yellow hair on the body, not shown in Bremer's plate. The variety with red spots as figured by him is rare.

Aporia hippia, Brem. Lep. Ost-Sib. p. 7, t. iii. fig. 1 (1864).

Found in the Amur region generally, sometimes flying in the

[1] I have since received from Mr. H. Strecker a note on Butterflies from Corea, among which was a female of *P. glacialis*.

same place and at the same time as *A. cratægi*. It may, however, be certainly distinguished from that species not only by the shape of the wings, which are longer, especially behind, but by the yellow spot at the base of the hind wing below, a character which only failed in one specimen of a long series which I examined in Dr. Staudinger's collection.

Aporia cratægi, Linn. Syst. Nat. x. p. 467.

Found in various parts of the Amur region and in Japan, but not in China as far as I know at present. Agrees perfectly with European specimens.

Pieris brassicæ, Linn., var. crucivora, Boisd. Sp. Gén. i. p. 522 (1830).

The form of *P. brassicæ* found in Japan, which is not mentioned by Bremer, differs from the European form in the male having the spots on fore wing showing on the upper surface more or less distinctly, and in the colour of the hind wings below, which are paler and less covered with black specks; the female is of a more shining white, the fore wings clouded over the greater part of their surface with blackish, and the cell and costa of fore wings beneath greenish, which character is also observable in the male. In fact the Japanese specimens seem to me more nearly allied to *P. rapæ* than to *P. brassicæ*.

I have males from Shanghai and Amurland which agree with Japanese males. The latter is considered by Dr. Staudinger a form of *P. rapæ*, which is said by Bremer to be found in the Bureija Mountains. It is, however, rare in Amurland.

The form described by M. Oberthür as *P. rapæ*, var. *orientalis*, Ober. Et. Ent. v. p. 13 (1880), from Askold, Japan, and North China, is probably the same as what I have mentioned above.

P. melete, Mén. Cat. Mus. Petr. p. 113, t. x. figs. 1–2 (1855).

The summer form of this is well figured by Ménétriés, and is easily distinguished; but the spring brood is much nearer to *P. napi*.

One male sent me by Dr. Staudinger, from Amurland, is almost devoid of the heavy markings on the upperside, and, except in tint, which is less yellow, resembles the male summer form *P. castoria* from California. I have from Askold and from Yokohama female specimens which are intermediate between *P. melete* and *P. napi* on the upper surface, and resemble *P. bryoniæ* beneath. According to Boisduval *P. melete* is found in the Himalaya; and I have specimens from the Khasia hills and Sikkim quite undistinguishable from Japanese and Askold specimens.

Pieris ajaka, Moore, from the N.W. Himalaya, seems very nearly allied; and *P. davidis*, Oberthür, from Moupin, must be studied in connexion with this group.

Pieris napi, Linn. Syst. Nat. x. p. 468.

P. aglaope, Motsch. Et. Ent. 1860, p. 28.
P. megamera, Butl. Cist. Ent. i. p. 173 (1873).
P. napi, var. *orientis*, Oberthür, Et. Ent. v. p. 13 (1880).

The difficulty which exists in understanding the forms of *P. napi* found in America has not been overcome, though for many years many good observers were working on the spot. Mr. Edwards's admirable monograph in 'Papilio' for June 1881 has made clear one thing to my mind; and that is, that there can be no greater mistake than to decide hastily in such intricate questions as these. The East-Asiatic forms of *P. napi* are puzzling in the extreme; and as we at present know little or nothing of their distribution, seasons, and larval states, I can only say that I believe the synonyms quoted above apply to what I should consider a form of *P. napi* common in Japan and Amurland, but not hitherto seen from China. *P. aglaope* seems analogous to the European form *P. bryoniæ*, considered, as I think justly, by Mr. Edwards as the parent stock of this species.

P. gliciria, Cram. Pap. Ex. ii. t. 171.

P. claripennis, Butl. Ann. & Mag. Nat. Hist. ser. 4, xix. p. 96.
P. sordida, Butl. Ann. & Mag. Nat. Hist. ser. 4, xix. p. 96.

I have examined the types of *P. claripennis* and *P. sordida*, both of which are in Pryer's Chinese collection.

In *P. claripennis* from Shanghai the spots do not show through the upperside of fore wing, but I see no characters of note by which to separate it. *P. sordida*, from the Snowy Valley near Ningpo, seems intermediate between *P. rapæ* and *P. gliciria*, having the spots on outer margin of hind wing partly obsolete, and those on fore wing smaller than in Shanghai specimens of *P. gliciria*, which nearly correspond with Himalayan ones, though not quite so heavily marked.

I have not seen *P. gliciria* from Japan or Amurland.

P. daplidice, Linn. Syst. Nat. x. p. 468.

I have two specimens of this from China, locality uncertain, but probably Shanghai. I have not seen it from Japan, though De l'Orza includes it in his list. Bremer mentions it as found at Pekin and on the Amur. He also includes the spring form *P. bellidice*, Ochs., under the name of

Anthocharis belemida, var. *orientalis*, Br. Lep. Ost-Sib. p. 8,

which was found on the Onon by Radde, though not seen by Dr. Staudinger from Amurland.

Anthocharis scolymus, Butl. Journ. Linn. Soc., Zool. ix. p. 52 (1866).

A. thunbergii, De l'Orza, Lep. Jap. p. 14 (1869).

This distinct species, which seems most nearly allied to the Californian *A. lanceolata*, Bdl., is found in Northern and Central Japan and at Shanghai, the latter specimens agreeing perfectly with

those from Japan. The male has the point of the fore wing marked with orange.

Anthocharis bambusarum, Oberthür, Et. Ent. ii. p. 20, t. iii. fig. 4 (1880).

Of this rare species, described from a single specimen taken in April in the province of Tchekiang by Abbé David, I have seen one in Pryer's collection from the Ningpo hills. It seems quite distinct, though allied to *A. cardamines*.

A. cardamines, Linn. Syst. Nat. x. p. 468.

According to Bremer this was found by Schrenk at Nikolaiefsk, and at Bureija by Radde. Oberthür says that David found it in East Tibet at 9000 feet elevation. I have seen no specimens from any part of Asia.

Leucophasia sinapis, Linn. Syst. Nat. x. p. 468.

Var. *amurensis*, Mén. Schrenk's Reise, p. 15, t. i. figs. 4, 5.
L. sinensis, Butl. Cist. Ent. i. p. 173 (1877).
L. vilibia, Jans. Cist. Ent. ii. p. 272 (1878).

According to Bremer there are intermediate forms of *Leucophasia* in Amurland which connect the type form with *L. amurensis*; and this is borne out by specimens from Amurland in Mr. Godman's collection and by others in my own from Japan. I have specimens from Amurland and Japan, which, though rather larger, agree in shape with *L. sinapis*; others from Shanghai (*L. sinensis*, Butl.) and Tokio have the longer and differently shaped fore wings which distinguish *L. amurensis*. The type of *L. vilibia*, which I have examined, is not in sufficiently good condition to be sure what it is; but I have little doubt that all the forms of *Leucophasia* found in Eastern Asia may be referred to one species.

Rhodocera rhamni, Linn. Syst. Nat. x. p. 470.

Var. *aspasia*, Mén. Schrenk's Reise, p. 17, t. i. fig. 8.
Var. *nipalensis*, Doubl. Gen. D. Lep. p. 71 (1847); Gray, Lep. Nep. t. v. fig. 1 (1831).
Var. *acuminata*, Feld. Wien. ent. Mon. vi. p. 23 (1862).

Found in Amurland, Japan, and China under various forms, to which I am unable, as far as my present knowledge extends, to allow specific rank.

The European form *R. rhamni* was found in the Bureija Mountains by Radde, and, according to Bremer, at Pekin.

The form called *R. aspasia* occurs in various parts of the Amur region, and is usually known by its rather smaller size and paler colour, and, according to Ménétriés, may be certainly distinguished by the shape and venation of the wings, though I am unable to follow the distinctions he draws in the specimens before me. The Japanese form is like the one described by Felder as *R. acuminata*, which he says differs in its larger size, brighter colour, more distinct discal spots, and in having the apex of fore wing more produced. These

characters I can perceive in a Shanghai specimen before me, but do not consider them of much importance.

Chinese specimens in Dr. Staudinger's collection are more like *R. aspasia*; and Bremer states that a Chinese specimen he examined agrees with *R. rhamni*; so that the differences are evidently not constant.

The Himalayan form distinguished as *R. nipalensis* is known by its bright colour, and by the wings having the marginal spots more conspicuous than usual in *R. rhamni*, which, however, it resembles more in colour and shape than it does *R. aspasia*.

Butler includes both *R. nipalensis* and *R. aspasia* as distinct species in his list of Maries's Nikko collection (Ann. & Mag. Nat. Hist. ser. 5, vii. p. 133); so that the result of a comparison of authorities is clearly to show that not one of these forms is constant in any one locality, though no one has been able to bring together a sufficient series to prove this.

Blanchard, in Comptes Rendus de l'Académie des Sciences, vol. lxxii. p. 810, mentions, though he does not fully describe, two species of *Rhodocera* from Moupin, one of which, *R. amintha*, is a third larger than *R. rhamni*; and the other, *R. alvinda*, is said to be very near *R. aspasia* and *R. rhamni*.

Colias palæno, Linn. Faun. Suec. p. 272.

? *C. pallens*, Butl. Journ. Linn. Soc., Zool. ix. p. 50.

Found in various parts of the Amur countries, and in the mountains of Central Japan at 7000 feet elevation.

Both sexes agree perfectly with European specimens.

The type of *C. pallens*, Butl., from Hakodadi, which I have examined, is a miserably worn faded specimen, of no value for scientific purposes, and may be either a female of this or a small pale *C. hyale*.

Colias hyale, Linn. Syst. Nat. x. p. 469.

? *C. poliographus*, Motsch. Et. Ent. p. 29 (1860).
C. simoda, De l'Orza, Lep. Jap. p. 16 (1869).
? *C. nereine*, Fisch., Motsch. Et. Ent. p. 29.
C. erate, Esp., Murray, Ent. M. Mag. 1876, p. 34.
C. erate ab *helictha*, Led., Brem. Ost-Sib., Nachtrag, p. 93.
C. subaurata, Butl. Ann. & Mag. Nat. Hist. ser. 5, vii. p. 138.
C. elwesii, Butl. loc. cit. p. 135.

The number of names under which the forms of this type found in Japan have been mentioned by various authors show the difficulty in dealing with them.

I have already given my opinion on the question in the Trans. Ent. Soc. Lond. 1880, p. 144, and further in Ann. & Mag. Nat. Hist. ser. 5, vol. vii. p. 464. I will say no more, except that the form of *C. hyale* which is usually known as *C. simoda* occurs abundantly in Japan, at Askold, though apparently not generally in Amurland, and also at Pekin and Shanghai, the specimens agreeing well with the ordinary Japanese type.

I have never seen *C. erate* from N.E. Asia, though it is recorded by Bremer from Possiet Bay and by Murray from Japan. The yellow form of *C. hyale*, which is so like the female of *C. erate*, that I could not tell them apart, has probably been mistaken for it.

I would here take the opportunity of saying, in answer to Mr. Butler's repeated assertion (see Ann. & Mag. Nat. Hist. ser. 5, vii. p. 137) that *C. helictha*, Led., cannot be a hybrid, that I am assured by Dr. Staudinger that the two species *C. edusa* and *C. erate* which produce it do fly together in abundance at Sarepta on the Volga, and that Kinderman, Becker, and Christoph have not once, but repeatedly, taken them *in copulâ*. Mr. Strecker also tells me that hybrids between *Colias philodice* and *C. eurytheme* are not uncommon in both sexes in the United States, and that they look much like the Russian hybrid *C. helictha*.

P.S. Mr. Strecker writes me that he has true *erate* from Japan smaller than the Russian ones, the female darker on upperside of hind wings, but the male has the unspotted border just like the Russian examples. In a second letter he writes that "the Japanese male *C. erate* is undoubted; what I take to be the female, and which I got along with it, is like the female Russian *C. erate* suffused with dark scales on the upperside of hind wing, whilst in *C. simoda* (*C. hyale*, var.) the clear lemon-yellow prevails."

Colias melinos, Evers. Bull. Mosc. 1847, iii. p. 72.

Found on the Schilka and the Amur by Radde, but appears very rare in collections. It is nearly allied to *C. phicomone*.

C. aurora, Esp. t. 83. f. 3.

Found at Raddefskaia, Blagovestchensk on the Ussuri, and other places in Amurland; but the females seem rare. There are two forms of this sex, as in other species of this section of the genus—*C. chloë*, Evers. Bull. Mosc. 1847, t. iv. figs. 3, 4, being the pale-coloured one; the other is extremely bright reddish orange. This species represents *C. edusa* in North-eastern Asia; no species of that section is known to me in Japan or China at present.

Terias læta, Boisd. Sp. Gén. i. p. 674; var. jægeri, Mén. Cat. Mus. Petr. p. 84, t. ii. fig. 1 (1855).

The variety found in China and Japan differs from the majority of Indian specimens in having a narrower black border to the fore wings, which is sharply interrupted near the hind margin in the way shown in Ménétriés's figure.

Some Himalayan and Khasia specimens have the band interrupted in the same way; but the Japanese examples can, as far as I have seen, be distinguished. Ménétriés, by mistake, says that *T. jaegeri* came from Hayti, where, of course, no such insect exists. It seems common in Japan, and is found at Shanghai.

Terias bethesba, Janson, Cist. Ent. ii. p. 272 (1878).

As far as I can judge, this is a good species, intermediate between *T. læta* and *T. hecabe*. The females are easily known, being of a pale dull lemon-colour, more or less clouded with dusky scales. It seems very like the figure and description of *T. venata*, Moore.

T. hecabe, Linn. Mus. Ulr. p. 249 (1764).

T. hecabeoides, Mén. Cat. Mus. Petr. p. 85, t. ii. fig. 2.

? *T. sinensis*, Luc. Rev. Zool. 1852, p. 429.

T. mariesi, Butl. Trans. Ent. Soc. 1880, p. 198, t. vi. figs. 1–7.

This wide-ranging and variable species is common in China and Japan. Mr. Butler's paper on the Japanese species of *Terias* gives full details of the variations and supposed hybrids between this species and the next.

I can see no reason for separating *T. mariesi*, the difference in the shade of yellow which Mr. Butler relies on being variable in my specimens from Yokohama.

T. anemone, Feld. Wien. ent. Mon. vi. p. 23 (1862); Butl. Trans. Ent. Soc. 1880, p. 199, t. vi. figs. 8–11.

Found in Japan, where, according to Mr. Butler, it connects *T. hecabe* with *T. mandarina* by almost insensible gradations.

With regard to this species Mr. Butler says (Trans. Ent. Soc. 1880, p. 200):—"So far as I have been able to judge, the *T. hecabe* and *T. mandarina* of China are constant; the intermediate *T. anemone* does not come from that country, in which case hybridization cannot modify the typical forms."

Mr. Butler appears to have entirely overlooked the fact that the type of *T. anemone* is expressly stated to have come from Ningpo. It is also quoted in Pryer's list of Rhopalocera of Chekiang and Kiangsoo provinces, in Ent. Mo. Mag. 1877, p. 52; and there are specimens in Pryer's collection marked "Snowy Valley, Ningpo."

T. mandarina, De l'Orza, Lép. Jap. p. 18 (1869); Butl. Trans. Ent. Soc. 1880, p. 199, t. vi. figs. 13–18.

Common in Japan, and occurs also in Formosa, whence two specimens are in Pryer's collection. I have, however, seen none from China, though Mr. Butler says it occurs there.

With regard to the supposed hybrids named and figured by Butler in the Trans. Ent. Soc. 1880, p. 197 *et seq.*, I would call attention to the utter want of evidence of the hybrid origin of the specimens which he names *T. hybrida* (No. 7) and *T. connexiva* (No. 12). Judging from the plates, the differences between Nos. 6, 7, 8, and 10 are extremely trifling, and equally so are the differences between Nos. 12, 13, 14, and 15. We are informed that the absence of 6 specimens out of 150, which are presumably represented by figs. 7 and 12, will leave the three species as sharply defined as any in the genus, and we are asked to believe without further evidence that on this account the six specimens are hybrids.

Miletus hamada, Druce, Cist. Ent. i. p. 361 (1875).

A distinct species, unlike any thing I have seen from China or Japan, but nearly allied to a specimen in my collection from Darjiling, which differs in having an indistinct whitish patch on the fore wing, which may be sexual. I have seen a specimen from Shanghai collected by Christoph, which comes very close to, if it is not identical with, those from Sikkim in Dr. Staudinger's collection. There is a single specimen in Pryer's collection, without indication of locality, which differs considerably from *M. hamada* beneath, but agrees with it above.

Lampides? sp.

An apparently new species, which will no doubt be described by Mr. Butler, is in the British-Museum collection from Kiukiang (*Maries*).

Lycæna? sp. nov.

A very distinct species, from Mr. Fenton's collection, of which I have only seen one specimen at Mr. Janson's. It is of a deep shining blue, with black border above and pale green beneath.

Curetis acuta, Moore, Ann. & Mag. Nat. Hist. ser. 4, xx. p. 50.

Nearest to *Curetis* (*Anops*) *bulis*, Hew., but differs in both sexes in the prolongation of the apical angle of fore wing. The specimens from Shanghai (*Pryer*) and Japan (*Pryer*, *Jonas*), which I have seen, agree fairly.

The female, which is of a blue-grey colour, seems much rarer than the male.

C. truncata, Moore, Ann. & Mag. Nat. Hist. ser. 4, xx. p. 50.

From Shanghai (*Holdsworth*). I have not seen this species, and can say nothing as to its specific difference.

Amblypodia japonica, Murray, Ent. Mo. Mag. 1875, p. 170.

Allied to *A. rama*, Köll., from the Himalaya; the fore wings more produced at the apex, and the hind wings without a tail.

Found at Yokohama, but seemingly not common in Japan. This species has been referred by Mr. Butler to *A. asinarus*, Feld. Reise Nov. ii. p. 235, 1865; but as this species comes from Cochin and is not figured, I am doubtful as to the identification.

A. turbata, Butl. Ann. & Mag. Nat. Hist. ser. 5, vii. p. 133.

This species is named but not described by Mr. Butler, though the specimens in the British Museum appear to be fully distinct from *A. japonica*, being larger, differently shaped, and with conspicuous tails to the hind wings, which *A. japonica* never has. *A. turbata* is from Nikko. There is a specimen resembling this in Pryer's collection, without indication of locality, but probably from China.

Niphanda fusca.

Thecla fusca, Brem. & Grey, Schm. nördl. China, p. 9 (1853).
Thecla fusca, Mén. Cat. Mus. Petr. i. t. iv. (1855).
♀ *Amblypodia dispar*, Brem. Lep. Ost-Sib. p. 24, t. iii. (1864).
Polyommatus fuscus, Oberthür, Et. Ent. ii. p. 20, t. iv.

This species is recorded from the Amur and Pekin (*Bremer*). I have specimens from Ningpo (*Pryer*) and Japan (*Pryer*) which agree very well with Bremer's and Oberthür's figures. The female differs considerably from the male. There are specimens in Dr. Staudinger's collection from Raddefskaia and Baranfsky. This species is referred by Butler to Moore's genus *Niphanda*, of which the type is *N. tessellata*, Moore, P. Z. S. 1874, p. 572, t. lxvi. fig. 6. It does not, however, seem to resemble the figure of this insect in form or colour.

Dipsas sæpestriata, Hew. Ill. Diurn. Lep. p. 67, t. xxvi. (1865).

This species seems common in Japan, and occurs also at Vladivostoek, where it was taken by Dörries.

D. lutea, Hew. Ill. Diurn. Lep. p. 67, t. xxvi. (1865).

This species also occurs in the same localities as the last, but does not seem so common.

D. jonasi, Jans. Cist. Ent. ii. p. 157.

Taken at the Yokawa river in Japan by Jonas. A single specimen from Askold, collected by Dörries, is in Dr. Staudinger's collection.

D. raphaelis, Oberthür, Et. Ent. v. p. 20, t. v. fig. 1 (1880).

This species, which is allied to the last, is from Askold, where it appears to be not common.

D. michaelis, Oberthür, Et. Ent. v. p. 19, t. v. fig. 2 (1880).

This species, which is also from Askold, appears to belong to the same group as the four preceding, though the yellow of the upper surface is much overlaid with brown.

Thecla smaragdina, Brem. Lep. Ost-Sib. p. 25, t. iii. fig. 5.

T. taxila, Brem. loc. cit. p. 26, t. iii. fig. 7.

The group of *Theclæ* with green males and brown or purplish females is very well represented in Amurland and Japan, as also in the Himalayas. There is, however, much difficulty in making out some of the forms, and it was only after I had consulted Dr. Staudinger that I came to any conclusion on the subject. Bremer figures *T. taxila* twice over, what he considers as the female being I believe the female of *T. smaragdina*, and what he calls the male being probably the female of a form of *T. japonica* occurring in Amurland. No male insect of that colour is yet known among the various species of this group of *Thecla*; and if *T. taxila* is a distinct species, we

have no male for it or female for *T. smaragdina*, M. Oberthür having made a mistake when he said that he had males of *T. taxila*.

The species is common in the littoral region of Amurland, and as far up the river as Raddefskaia. I think it also occurs in Yesso; but the specimens from thence are smaller, and do not perfectly agree with those from the mainland.

T. smaragdina is easily distinguished in the male sex by the short bar across the underside of fore wing; but this bar does not seem to be constantly present in the female, which, however, may be known by the colour of the underside.

Thecla japonica, Murray, Ent. Mo. Mag. xi. p. 169 (1874).

? *Dipsas taxila*, Hew. Ill. Diurn. Lep., Supp. p. 16, t. vi. figs. 16, 17.

Var. *a*. ♀. *T. fasciata*, Jans. Cist. Ent. ii. p. 272, t. v. fig. 4 (1878).

T. smaragdoides, Staudinger in litt.

T. taxila, Oberthür, Et. Ent. v. p. 18; ? Bremer, t. viii. fig. 2.

Ab *b*. *aurorina*, Oberthür, loc. cit. (*flavo-maculata*).

This species is easily distinguished from *T. smaragdina* by the darker colour of the underside. The variation of the female has given rise to much confusion in the nomenclature of this insect; but I believe the synonymy above is correct. The females appear to be dimorphic, as, until it can be shown that there is a male different from *T. japonica* which can be assigned with certainty to *T. fasciata*, I fail to see the propriety of separating that form, which corresponds very fairly with similar female aberrations in Amurland.

M. Oberthür has females from Askold which, he says, are a perfect transition between the types of *T. aurorina* and *T. fasciata*.

There is also a form, of which Dr. Staudinger has three males and one female from Vladivostock and Askold, which comes very near *T. japonica* from Amurland, but which is perhaps only a variety or hybrid between it and *T. orientalis*, both of which occur in the same localities.

Lastly, we have a form separated by Dr. Staudinger as

T. saphirina, Stdgr. MSS.,

which differs from any of the others in the colour and markings of the underside, in which it is nearest to *T. attilia*. Of this only one male and two females are known, from the coast-region of Amurland.

T. orientalis, Murray, Ent. Mo. Mag. ser. 4, x. p. 169 (1875).

? *T. diamantina*, Oberthür, Et. Ent. v. p. 18, t. i. fig. 1 (1880).

This species, which is easily distinguished by its larger size and paler colour, occurs not uncommonly in both Japan and the coast-region of Amurland. Specimens from Askold agree perfectly with Japanese examples.

T. diamantina is considered by Dr. Staudinger a synonym of this species; but the figure of it agrees, I think, more closely with the true *T. smaragdina*, which I have from Amurland.

Thecla arata, Brem. Lep. Ost-Sib. p. 25, t. iii. fig. 6 (1864).

? *T. tyrianthina*, Butl. Ann. & Mag. Nat. Hist. ser. 5, vol. vii. p. 34, t. iv. fig. 5.

I have seen specimens of this from the Amur, Japan, Yesso (*Mus. Hew.*), Kiukiang, China (*Maries*). It is also found at Pekin (*Bremer*). The Yesso specimen is smaller than the others; but the one described as *T. tyrianthina* from Kiukiang appears to be nearly the same as *T. arata*, though the specimens are too much worn to be relied on.

T. micans, Br. & Grey, p. 9; Mén. Cat. Lep. Mus. Petr. t. iv. fig. 4

? *T. betuloides*, Blanch., Butl. Ann. & Mag. Nat. Hist. ser. 5, vi p. 34, t. iv. fig. 2.

Of this species the male only is described by Bremer, from Pekin; but a female specimen is in Pryer's collection from Shanghai which, I think, must belong to it. What I think is probably the same insect is also mentioned by Butler as *T. betuloides*, from Kiukiang (*Maries*). It is allied to *T. setira*, Moore, from the north-west Himalaya.

Three specimens, two males and one female, from Chefoo, in Dr. Staudinger's collection differ slightly in being of a yellower ground-colour below than in my specimen; and the male has the red on disk of fore wing more distinct than in Bremer's figure.

T. avidiena, Hew. Ent. Mo. Mag. 1877, p. 108.

A very distinct species, which I have seen from Shanghai (*Pryer*) and Kiukiang (*Maries*). The disks of both wings above are bluish; beneath it is of a reddish brown, with a broad silvery Y-shaped bar on the hind wings.

T. cærulescens, Motsch. Bull. Mosc. 1866, i. p. 191.

I am unable to identify this species, which is described as like the next but without yellow spots.

T. cærulea, Brem. & Grey, p. 8 (1853); Mén. Cat. Lep. Mus. Petr. t. iv. fig. 4.

I have never seen this species, which has hitherto only been found at Pekin. It is unknown in any of the collections I have seen.

T. attilia, Brem. Lep. Ost-Sib. p. 24, t. ii. fig. 3.

Found in the Bureija Mountains by Radde; also in Japan.

It seems allied to *T. odata*, Moore, from the N.W. Himalaya. It does not seem to occur generally in the Amur region, as Dr. Staudinger has never seen it in collections from there.

T. grandis, Feld. Wien. ent. Mon. vi. p. 24 (1862).

T. eretria, Hew. Ill. Diurn. Lep. p. 114, t. 42 (1869).

Felder's description, which was taken from a single bad specimen from Foochow, agrees very well with Hewitson's figure, and with a specimen in Pryer's collection from Ningpo. It is a large insect, resembling *T. w-album* in markings, but with the costa of fore wings more curved.

? THECLA W-ALBUM, Knoch, Beiträge, ii. p. 85 (1781).

Found at Pekin (*Bremer*); a specimen from there is in the British Museum. Also at Shanghai (*Pryer*).

Differs from the European insect in having usually a larger blue spot at the anal apex, and a double line of pale lunular markings on the fore part of the hind wing below. No specimen in Dr. Staudinger's collection quite agrees with this, which may be a distinct species.

T. MERA, Jans. Cist. Ent. ii. p. 157 (1877).

This species, found at Matzabaro, Japan, by Mr. Jonas, is allied to *T. pruni* of Europe; but the few specimens I have seen differ sufficiently from that species.

T. stygiana, Butl. Ann. & Mag. Nat. Hist. 1881, vii. p. 35, t. iv., fig. 6, from Nikko, seems very near it; but the type specimen is not fresh enough to be described with accuracy.

T. PRUNOIDES, Stdgr. MSS.

This was taken at Vladivostock by Christoph; but though very near *T. w-album*, the markings of the hind wing beneath are, as Dr. Staudinger thinks, sufficiently different to separate it from that species. He has also a specimen from the Altai.

T. PRUNI, Linn. Syst. Nat. x. p. 482.

Occurs at Vladivostock and on the Lower Ussuri.

T. PHYLLODENDRI, Stdgr. MSS.

A distinct species allied to *T. pruni*, but distinguished by a double line of black spots on the underside of both wings. It was taken at Vladivostock by Christoph, and at Baranofsky by Dörries.

? T. SPINI, Schiff. S. V. p. 186.

Recorded by Bremer from Pekin, and by De l'Orza from Japan; but I have seen no specimens from Asia, and Dr. Staudinger has none from any locality east of the Caspian.

T. RUBI, Linn. Syst. Nat. x. p. 483.

Recorded by Bremer from Onon (*Radde*), and by De l'Orza from Japan; but I have seen no specimens from Eastern Asia.

T. ENTHEA, Jans. Cist. Ent. ii. p. 157 (1877).

A very distinct species, easily known by the coloration and spots of the under surface.

It was described from the Yokawa river, Japan, collected by Jonas, but is rare in collections. I have seen a specimen in Dr. Staudinger's collection from Vladivostock (*Christoph*) which agrees perfectly with it.

Thecla frivaldszkyi, Led. Verh. zool.-bot. Ges. Wien, 1855, p. 100, t. i. fig. 1.

? *Lycæna ferrea*, Butl. Journ. Linn. Soc., Zool. ix. p. 57 (1866).

Satsuma ferrea, Murray, Ent. Mo. Mag. xi. p. 168 (1874).

I was disposed to consider the Japanese and Amur form of this species distinct till I saw the series of *T. frivaldszkyi* in Dr. Staudinger's collection. He, however, judging from a typical Japanese specimen I showed him, thinks them identical. As a rule the Japanese insect is deeper in colour on the underside; but a specimen in Hewitson's collection from Yesso, where I believe the type of *T. ferrea* was taken, is nearer to the Amur form.

Mr. Murray considers this species to form a distinct genus; and it is certainly very unlike any other European or Asiatic *Thecla*, though apparently very nearly allied to *Thecla irus*, God., and other North-American species.

Polyommatus virgaureæ, Linn. Syst. Nat. x. p. 484.

Found at Pekin (*Bremer*) and in the Apfelgebirge by Radde, also on the Upper Amur by Hedemann.

P. amphidamas, Esp. t. 58. fig. 4 (1779).

Found at Schilka by Hedemann, and Onon by Radde.

P. hippothoë, Linn. Faun. Suec. ii. p. 274 (1761).

Found at Pekin and on the Amur at Raddefskaia and the Ussuri by Christoph.

P. phlæas, Linn. Faun. Suec. p. 285.

Var. *eleus*, Fab. Suppl. Syst. Ent. 430.

P. phlæas, var. *chinensis*, Feld. Verh. zool.-bot. Ges. Wien, xii. p. 488 (1862).

Found in Amurland, Japan, and China.

Dr. Staudinger says the Amur variety resembles the American one, having the red line on underside of hind wings more conspicuous than in European specimens.

I see nothing remarkable in the Chinese insect, of which I have three from Ningpo; one of these is much larger than European specimens. All the Japanese and one of the Chinese specimens are of the dark summer brood (*eleus*, Fab.).

Lycæna bætica, Linn. Syst. Nat. xii. p. 789.

Found in Japan and at Shanghai, but not known in Amurland.

L. argiades, Pall. Reise, xii. p. 472.

L. hellotia, Mén. Cat. Mus. Petr. 124, t. x. (1857).

? *L. praxiteles*, Feld. Reise Nov. p. 281, t. xxxv.

This species seems to be widely distributed through Northern and Eastern Asia, China, and Japan. I have compared many specimens from Amurland, Shanghai, and Japan, and find them so very variable, both in size, colour, and the spots of the hind wing, that I am unable

to see how the larger and brighter specimens described as *L. hellotia* and *L. praxiteles* can be separated from *L. argiades*. As a rule the Oriental and Japanese specimens are larger and more richly spotted, especially at Tokio, Japan; but some of those from Askold (*Jankowsky*) and Shanghai (*Pryer*) are quite as small as German specimens of *L. polysperchon*, Berg. This variety also occurs on the Ussuri at Raddefskaia and Askold.

Lycæna fischeri, Evers. Bull. Mosc. 1843, p. 537, t. ii.

Found at Vladivostock and Askold, also at Shanghai, but not, so far as I know, in Japan. Chinese specimens do not agree perfectly with Siberian ones. They are smaller, and the blue eyes do not show through the hind wing of female; but I do not think they can be separated. There is in Pryer's collection a species marked "*filicaudis*, Pryer, type," of which I can find no published description, and which I think belongs to this species.

L. argia, Mén. Cat. Mus. Petr. 125, t. x. (1857).

? *L. japonica*, Murray, Ent. Mo. Mag. xi. p. 167 (1874).

This species is a very puzzling one, and, without seeing the type specimens, impossible to decide upon.

I have specimens which agree perfectly with Ménétriés's description, and others from the same localities agreeing with Murray's description of *L. japonica*, of which he only knew the female. Ménétriés's plate, however, represents an insect which might well be a faded male of *L. ægon*; and in his description he compares the species with *L. optilete*.

From Shanghai are other specimens, referred by Moore to *L. otus*, Fab.; and in various collections I find specimens of the same or a nearly allied species referred to *L. maha*, Koll., from Kashmir, *L. chandala*, Moore, from Shanghai, Hongkong, *L. diluta*, Feld., from Swatow. There are also specimens in my own and Hewitson's collection from Sikkim, Calcutta, and N.W. Himalaya coming very close. I am quite unable to say what are the limits and distinctive characters of these various species, if they are distinct.

L. lysimon, Hübn. Eur. Schmett. t. 535. f. 5.

Of this wide-ranging species I have specimens from Shanghai, and one doubtfully from Japan which comes very close to it. There are specimens referred to this species in Dr. Staudinger's collection from Amoy, Foochow, and Macao.

L. cleobis, Brem. Bull. Acad. Petr. iii. p. 472 (1861).

L. ægonides, Brem. Lep. Ost-Sib. p. 28, t. iii. fig. 8 (1864).

From Raddefskaia, Baranofsky, and other parts of the Amur region. Some specimens of the Japanese *L. argus* ♀ come very near this; but *L. cleobis* may be distinguished by its broad white fringe and darker tint, especially in the male sex.

Lycæna argus, Linn. Syst. Nat. x. p. 483.

This species occurs at Askold, Vladivostock, and in Japan, where the specimens are very large and dark, and the females have conspicuous ocelli showing through the upperside of the hind wing. I have also specimens from Pryer's collection from Shanghai, which I should be disposed to refer to this species, though they are probably what Murray has described, in Trans. Ent. Soc. 1874, p. 523, t. x., as *L. chinensis* from North China. His figure, however, shows a more distinct brown band, as in *L. pylaon*, and no blue ocelli, as in *L. argus*, which my specimens certainly have. It is probable that *L. chinensis*, whatever it is, refers to the species which Bremer calls *L. pylaon* in his Pekin list. Dr. Staudinger, however, has never seen *L. pylaon* from any part of Eastern Siberia.

L. ægon, Schiff. S. V. p. 185 (1776).

L. micrargus, Butl. Cist. Ent. 1878, p. 283.

Found in various parts of the Amur region, and less commonly in Japan. I have a pair, collected by Fenton near Tokio, which I believe to be the same as Mr. Butler's *L. micrargus*, of which I have seen the type in the British Museum.

L. orion, Pallas, Reise, t. i. p. 471 (1771).

Found in various parts of the Amur region and at Pekin, but not as yet in Japan.

L. baton, Berg. Nom. t. 60. 6–8 (1779).

Only seen from Askold and Vladivostock.

L. astrarche, Berg. Nom. iii. p. 4, t. 49.

I have seen one specimen from Askold in Dr. Staudinger's collection, and others of the variety *allous*, Hübn., from various parts of Amurland.

L. icarus, Rott. Naturf. vi. p. 21 (1775).

A single, very large and well-marked specimen is recorded by Bremer from the Lower Ussuri; but I have seen none from Eastern Asia.

L. eros, Ochs. i. 2, p. 42 (1808).

Recorded by Bremer from the Bureija Mountains, but I have seen no Amur specimens.

L. amanda, Schn. N. Mag. iv. p. 428 (1792).

A variety of this species from the Amur has the red spots on margin of hind wing beneath larger and brighter than in European examples. It is recorded by Bremer from the Bureija and Lower Ussuri.

Lycæna eumedon, Esp. 52, 2 (1780).

Of this species I have only seen a single Amur specimen in Dr. Staudinger's collection.

L. biton, Brem. Lep. Ost-Sib. p. 30, t. iii. fig. 9.

Of this species, found by Maack between the mouth of the Ussuri and the Amur, I know nothing beyond Bremer's figure. It seems allied to *L. donzelii*, Boisd.

L. argiolus, Linn. Syst. Nat. x. p. 483.

L. ladonides, De l'Orza, Lép. Jap. p. 20.

Common in the Amur region, Japan, and found by Pryer at Shanghai.

L. minima, Fuessl. Verz. p. 31 (1775) (*alsus*, Schiff.).

Only found in the Bureija by Radde.

L. semiargus, Rott. Naturf. vi. p. 20 (1775) (*acis*, Schiff.).

I have one specimen from the Amur; it is recorded from the Bureija and Lower Ussuri by Bremer.

L. cyllarus, Rott. Naturf. vi. p. 20 (1775).

Found in the Bureija and on the Ussuri, whence I have seen one specimen in Dr. Staudinger's collection.

L. arionides, Stdgr. MSS.

Of this species, which Dr. Staudinger considers distinct, I have one specimen from Japan, collected by Fenton, agreeing with those from the Amur in his collection.

It may be only a form of *L. arion*, and resembles the var. *cyanecula*, Evers., on the upper surface, but has not so much green below. It is best distinguished by the large confluent black spots on underside of fore wings.

L. lycormas, Butler, Journ. Linn. Soc., Zool. ix. p. 57 (1866).

L. scylla, Stdgr. MSS.

I have examined the type of *L. lycormas* from North Japan in the British Museum, and believe that *L. scylla*, of which I have specimens from Askold (*Jankowsky*) and the Amur, are identical with it.

It is allied to *L. cyllarus*, but differs in the conspicuous black spots on the underside of hind wing, and has much less blue on the underside, and the white fringe more conspicuous.

L. pryeri, Murray, Ent. Month. Mag. x. p. 126 (1873).

A large and distinct species, which seems abundant in Japan, and of which I have seen specimens from Vladivostock, Raddefskaia, and the Ussuri in Dr. Staudinger's collection.

Lycæna arion, Linn. Syst. Nat. x. p. 483.

Of this I have only seen one specimen, from Raddefskaia; and Radde took a single very large one in the Bureija Mountains.

L. euphemus, Hb. 254–256.

? *L. kazamoto*, Druce, Cist. Ent. 1875, p. 361.

The type of *L. kazamoto*, which I have examined in Godman and Salvin's collection, is very dark, the spots hardly showing; but I think it is only a variety of *L. euphemus*, which seems extremely variable in Japan. It is marked as taken at 6000 feet elevation. Japanese specimens vary much in the expanse of the wings; and most of them have a black spot at the base of the fore wing below, which does not appear in European specimens.

This species seems common in certain parts of Central Japan, and occurs also at Yesso (*Whitely*) and at Raddefskaia in Amurland.

Libythea, sp.

L. lepita, Moore, Cat. Lep. E.I. C. Mus. p. 240.

The Japanese species of *Libythea* has been referred by authors to *L. lepita*, Moore, from the Himalayas, which is described as differing from *L. myrrha*, Godt., in the ferruginous streak from base of fore wing being divided into two portions—the first within the discoidal cell, the second a round terminal spot beyond its extremity.

Six specimens from Sikkim and Nepal in my collection all belong to *L. myrrha*; and a specimen from Japan is intermediate between that and the European *L. celtis*, to some specimens of which it comes near in the arrangement of the markings. The band on the hind wing is narrower than in either *L. myrrha* or *L. celtis*; and the colour of the underside different.

Zemeros flegyas, Cr. Pap. Ex. iii. t. 280.

A single specimen was in Pryer's Shanghai collection; and it is included in his list of Chinese Butterflies in Ent. Month. Mag. 1877, p. 52.

Charaxes narceus, Hew. Ex. Butt. i. *Nymph.* t. 1.

Var. *mandarinus*, Feld. Reise Nov. p. 437.

Found at Shanghai by Pryer.

Dichorragia nesimachus, Boisd., Cuv. Règne An. Ins. ii. t. 139 bis (1836).

Not uncommon in Japan, and probably found in China, though I have seen no specimens from there. It agrees with Sikkim specimens, though the white markings at the apex of the fore wing are shorter.

Apatura iris, Linn. Syst. Nat. x. p. 476.

Found in the Bureija Mountains by Radde, and at Raddefskaia and Askold. It is reported to exist in Japan; but I have never seen specimens from there.

The Amur specimens are somewhat larger than European examples.

Apatura ilia, Schiff. S. V. p. 172.

Var. *clytie*, Schiff. S. V. p. 321.
A. here, Feld. Wien. ent. Mon. vi. p. 27 (1862).
A. substituta, Butl. Cist. Ent. i. p. 159 (1873).

Found in Amurland, at Pekin, Shanghai, and in South and Central Japan. The form described as *A. here*, from Ningpo, is said by Felder to differ constantly in the termination of the interior band of the hind wing, less easily seen in the male than the female; but Dr. Standinger agrees with me in uniting it with *A. clytie*. Oberthür says Askold specimens do not differ from the French type; and the Japanese form, though varying somewhat, is probably the same as the Chinese insect. Some specimens come very close in colour to the var. *metis* from Sarepta, but have the anal ocellus as large as in *A. ilia*.

Hestina assimilis, Linn. Mus. Ulr. p. 300 (1764).

Found in Central China and in Japan, though I have no specimens from the latter country.

Euripus charonda, Hew. Ex. Butt. iii. t. 1. fig. 1 (1863).

Not rare in Japan, but extremely difficult to take in good condition, on account of its strong and high flight.

Perfect specimens of this splendid insect are very rare in collections.

E. japonica, Feld. Wien. ent. Mon. vi. p. 27 (1862).

Common in Central Japan.

Adolias schrenki, Mén. Bull. Acad. Péters. xvii. p. 215 (1859); Schrenk's Reise, ii. p. 31, t. iii. fig. 2.

Taken at Raddefskaia, on the Ussuri, and elsewhere in Amurland.

Paraplesia adelma, Feld. Wien. ent. Mon. vi. p. 20 (1862).

Isodema adelma, Feld. Wien. ent. Mon. vii. p. 109; Reise Nov., Lep. iii. t. 54. figs. 1, 2.

Of this fine species I have seen two specimens from the Ningpo hills in Pryer's collection.

In this genus the discal cell is completely closed by a vein, which, though not very apparent on the upper surface, is strongly developed below.

Athyma sulpitia, Cr. Pap. Ex. iii. t. 214 (1782).

A. sulpitia, var. *ningpoana*, Feld. Wien. ent. Mon. vi. p. 26.

The variety described by Felder from the Ningpo hills is said to differ from the form found in South China in having the spots of the cell confluent, forming a stripe, and in other characters. There is a specimen from the Snowy Valley which is probably this, as it does not agree well with Cramer's plate.

Athyma pryeri, Moore, Ann. & Mag. Nat. Hist. ser. 4, xx. p. 47.

From the Snowy Valley, near Ningpo (*Pryer*).

This species seems very near the last, but has the second white band on the hind wings reduced to a line of spots margined with white.

Limenitis helmanni, Lederer, Verh. zool.-bot. Gesellsch. Wien, 1853, p. 356, t. i. fig. 4.

Found at Askold, Blagovetschensk, Onon, the Ussuri, and also, according to De l'Orza, in Japan, though I have seen no specimens from there. Specimens from the Altai have the bands and spots narrower than Amur specimens.

? L. homeyeri, Tancré, Ent. Nach. 1881, p. 120.

Seems to me but a variety of *L. helmanni*, though some specimens have a distinct marginal white line on upper surface of hind wings, which is faint or absent in *L. helmanni*.

Found at Raddefskaia, Blagovetschensk, and the Ussuri.

L. amphyssa, Mén. Schrenk's Reise, p. 21, t. iii. fig. 1.

Found in many parts of the Amur region, and, according to De l'Orza, in Japan; but I have never seen specimens from the latter.

L. sydyi, Led. Verh. zool.-bot. Gesell. Wien, 1853, p. 357, t. i. fig. 3.

Var. *latifasciata*, Mén. Schrenk's Reise, p. 30, t. iii. fig. 1.

De l'Orza says that Japanese specimens (which, however, I have never seen) hardly differ from Altai specimens. This is probably an error, as *L. sydyi* has not been found on the Amur, and the variety *L. latifasciata* is very distinct in all the specimens I have seen, having the white bands on both wings nearly twice as broad as in typical *L. sydyi*. Indeed, if no intermediate forms occur, I think it might fairly be separated.

L. populi, Linn. Syst. Nat. x. p. 476.

Found at Raddefskaia, on the Ussuri, and in the Bureija Mountains.

The males from Amurland have the white bands as broad as in females from Europe, and differ remarkably from European males, which are, in some localities at least, usually of the form known as *L. tremulæ*, Esp. 114.

L. nycteis, Mén. Schrenk's Reise, p. 28, t. ii. fig. 11.

Athyma cassiope, Mén. loc. cit. p. 27, t. ii. fig. 10.

Found at Raddefskaia and on the Ussuri. A distinct species.

The insect described as *L. cassiope*, from a single female taken by Maack, does not seem to have been discovered by later collectors, and is thought by Dr. Staudinger to be an aberration of *L. nycteis*.

L. sibylla, Linn. Syst. Nat. x. p. 781.

Common in Japan, where it agrees very well with European specimens; but in Amurland Dr. Staudinger finds that the white bands are always narrower.

Limenitis sinensium, Oberthür, Et. Ent. ii. p. 25, t. iv. fig. 8.

A very distinct species, only found by Abbé David in the Chinese province of Kiangsi.

Neptis ? raddei, Brem. Lep. Ost-Sib. p. 18, t. i. fig. 9.

This is so unlike any other species of *Neptis* that I doubt the propriety of including it in the genus; the female is very rare, and agrees with the male in colour.

It is found at Blagovetschensk, Raddefskaia, and at Askold.

N. thisbe, Mén. Schrenk's Reise, p. 26, t. ii. fig. 9.

A distinct species, resembling some of the Himalayan species in coloration. The female, which is very rare, is rather paler in colour. Bremer says that in a variety from the Ussuri the bands and spots are almost white.

N. philyra, Mén. Schrenk's Reise, p. 25, t. ii. f. 8.

Found at Raddefskaia, on the Ussuri, and elsewhere. It is probable that some of the specimens in collections under this name belong to the following.

N. philyroides, Stdgr. MSS.

From Raddefskaia and the Ussuri. Seems commoner than the last, from which it is distinguished by two white spots on the costa, and by the paler colour of the underside. The female, which is rare, has the same chatacteristics.

N. speyeri, Stdgr. MSS.

Of this species, which is intermediate between *N. aceris* and *N. philyra*, Dr. Staudinger has only two specimens from the Ussuri.

N. lucilla, Schiff. S. V. p. 173; Fab. Mant. 55.

Var. *ludmilla*, Herr.-Schäff. vi. p. 6, t. 546.

Found in many parts of the Amur region.

I have two varieties from Japan, one of which agrees with the European *N. lucilla*, and one with *N. ludmilla*. The two forms, however, seem to run into each other.

N. aceris, Lepechin, Reisé, i. p. 203, t. xvii. figs. 5, 6 (1768–70).

Var. *intermedia*, Pryer.

Found in most localities in Amurland, Japan, and at Ningpo.

I can find no published description of *N. intermedia*; but the type, which was in Mr. Pryer's collection from the Snowy Valley, near Ningpo, appears to be a form of *N. aceris*. The same form also occurs in Japan. It differs from European specimens of *N. aceris* in being darker underneath and having narrower bands; the Japanese specimens I have seen are variable in this respect, and appear to connect the Chinese with the European form; but I doubt the propriety of separating them. Those from North Japan are closest to European specimens.

Neptis pryeri, Butler, Trans. Ent. Soc. 1871, p. 561; Lep. Ex. t. 63; Jans. Cist. Ent. ii. p. 155.

Limenitis arboretorum, Oberthür, Et. Ent. ii. p. 24, t. iii. (1876).

Found in Japan by Jonas and Maries, at Ningpo by Pryer, Kiangsi by David, and at Vladivostock by Christoph.

I have no Japanese specimens; but Mr. Janson says that several taken at the foot of Oyama by Jonas, agree perfectly with Oberthür's figure of *N. arboretorum*.

I may say the same of those from Vladivostock in Dr. Staudinger's collection.

N. sangaica, Moore, Ann. & Mag. Nat. Hist. ser. 4, xx. p. 47.

Said to be most nearly allied to *N. alompra* from Assam; but the type specimens from Ningpo in Pryer's collection seem to me very near *N. eurynome*, Westw., though distinguished by the absence on both sides of hind wing of the marginal lunules. The intermediate white band is almost obsolete.

N. eurynome, Westw. in 2nd edit. Donov. Ins. China, p. 66 (1842).

Papilio leucothoe, Donov. Ins. China, t. 35. fig. 3 (1798), nec Cram.

From the Ningpo hills (*Pryer*).

N. alwina, Brem. & Grey, Schm. nördl. China, p. 7, t. i. fig. 4 (1853).

? *Limenitis kæmpferi*, De l'Orza, Lép. Jap. p. 40 (1869).

? *N. excellens*, Butler, Cist. Ent. ii. p. 282 (1878).

Three specimens from Japan in my collection differ but very little from Bremer's figure of *N. alwina*, which comes from Pekin, though the spots on upperside of fore wing are not quite so large or well formed. Two specimens from Chefoo in Dr. Staudinger's collection also come very close to *N. alwina*.

L. kæmpferi is probably the same; but the description is obscure. As regards *N. excellens*, Butler, I find that the type of this insect in the British Museum is a paper figure stuck on a pin, the "excellent drawing" from which the species was described (see Cist. Ent. ii. p. 282). I believe specimens have since been received corresponding with this figure; but it seems to me that the practice of describing from figures in such a case as this can only lead to confusion, and that there can be no excuse for it when the specimens from which the figures are taken are believed to exist.

The excellence of a drawing for scientific purposes consists in its likeness to the original, which cannot be known without comparison with the specimen.

Junonia lemonias, Linn. Mus. Ulr. p. 277.

Recorded by De l'Orza from Japan.

Junonia almana, Linn. Mus. Ulr. p. 272.
In Pryer's collection, from Shanghai.

J. asteria, Linn. Syst. Nat. i. p. 769.
In Pryer's collection from Shanghai.

J. orithya, Linn. Mus. Ulr. p. 278.
Recorded from Japan by Murray.

Vanessa levana, Linn. Syst. x. p.480.
Var. *prorsa*, Linn. Syst. Nat. x. p. 480.
Ab. *porima*, Ochs. i. 1, p. 134.
Araschnia fallax, Jans. Cist. Ent. ii. p. 271 (1878).

This species occurs in both its spring and summer forms in various parts of the Amur region, *V. levana* having been taken in June, and both forms at Raddefskaia by Christoph. I have also seen what I believe to be a form of the same species in Dr. Staudinger's collection from some part of North China; and, if I am correct in referring *V. fallax* to this species, it is also found in Japan. Mr. Janson says that Mr. Jonas finds *V. burejana* and *V. fallax* in Japan at the same season and in different localities, and infers from this that it cannot be a form of *V. burejana*, to which he considers it most nearly allied. In fact it is hardly distinguished from some European specimens of the form known as *V. porima*, which is believed to be the produce of pupæ of *V. levana* which from some cause have been checked in their development; and Dr. Staudinger tells me that this variety can be bred by exposing the pupæ to cold.

V. fallax differs from *V. porima* only in having the transverse band rather more yellow in colour; and it may possibly be a single-brooded Japanese form of *V. levana*. The Chinese specimens, though much larger, come nearer to the Japanese than to the Amur form.

Blanchard, in 'Comptes Rendus Acad. Sciences,' 1871, p. 810, mentions *Vanessa prorsa* as being found by Abbé David in E. Thibet, and also names *Vanessa prorsoides* and a variety *levanoides*, which he says differ from *V. prorsa* and *V. levana* in being larger.

V. burejana, Brem. Lep. Ost-Sib. p. 15, t. i. fig. 8.
Araschnia strigosa, Butler, Journ. Linn. Soc., Zool. ix. p. 54 (1866).

This species is found in most parts of the Amur region, and less commonly in Japan.

I think there is little doubt of the identity of *V. strigosa*, though I have seen but few specimens of the Japanese insect.

V. l-album.

Only seen from the Ussuri and from Japan, where it seems rare. The Japanese insect seems intermediate between the European and the American form known as *j-album*; but probably the latter is not really separable. Mr. Strecker says (in his Catalogue, p. 133) that the European and American forms cannot be separated.

Vanessa c-album, Linn. Syst. Nat. x. p. 477.

V. fentoni, Butler, Cist. Ent. ii. p. 281 (1878).

V. hamigera, Butler, Ann. & Mag. Nat. Hist. ser. 4, xix. p. 92.

V. c-album, Strecker, Cat. Amer. Lep. p. 130.

I have little doubt that the supposed species described as above are only varieties of *V. c-album*; at least it will require much better evidence than we have to prove the contrary. The Japanese specimens which I have seen are variable in the colour of the underside, but not more so than European and American specimens. Butler says that *V. fentoni* is nearest to *V. satyrus*. I have a series of specimens from Washington Territory supposed to belong to four or five distinct species, but which seem to me to be all forms of one, which, until the confusion which exists in this difficult group is cleared up, I prefer to call *V. c-album*. Some of them with greenish underside agree with a Japanese specimen; and I have a specimen of *V. c-album* from Norway very black below, agreeing with others, which are called by American collectors *V. satyrus*. A specimen from Zurich agrees with what I had from Mr. Janson as *V. fentoni* in all important characters. The species seems not common, but occurs in Central Japan and Amurland.

V. c-aureum, Linn. Syst. Nat. ed. xii. p. 778.

V. angelica, Cr. t. 388; Jans. Cist. Ent. ii. p. 271.

I need not go into the much-argued question as to the correct name of this, but am disposed to think that as Linnæus's description is applicable, and he distinctly says it is from Asia, we may take his name in preference to that of *V. angelica*, Cr.

The species is common in Japan and China, but has not yet been found in the Amur region.

V. pryeri, Janson, Cist. Ent. ii. p. 269 (1878).

This, though allied to the last species, is, I think, clearly distinct. It is brownish or chocolate below, with the L-shaped mark on the hind wings large and distinct, whilst *V. c-aureum* is always of a paler yellowish colour below.

V. urticæ, Linn. Syst. Nat. x. p. 477.

Occurs uncommonly in Amurland and Japan, if, as I believe, the variety which Mr. Fenton calls *V. butleri*, MSS., is the same. Those I have seen from Raddefskaia have the hind part of fore wing and basal two thirds of hind wing much suffused with black.

V. callirhoë, Fab. S. E. 473 (1775).

Papilio atalanta indica, Herbst, t. 180. fig. 12 (1794).

Occurs in Japan, China, and Amurland.

V. cardui, Linn. Syst. Nat. x. p. 475.

Occurs in Amurland and Japan, doubtless also in China.

Vanessa io, Linn. Syst. Nat. x. p. 472.

Seen from Raddefskaia, Askold, and Japan.

V. charonia, Drury, Ex. Ent. i. t. 15 (1773).

Var. *glauconia*, Motsch. Et. Ent. ix. p. 28 (1860).

I have not seen this; nor is it recorded from the Amur; but it is common in Japan and China. The form described as *V. glauconia* by Motschulsky has the spot on the fore wing pale or whitish in colour; but I have Sikkim specimens almost as pale, though, as a rule, the Japanese can be distinguished from Indian specimens.

V. xanthomelas, Schiff. S. V. p. 175, n. Cat.

Common in Japan, and in all localities where collections have been made in Amurland.

V. antiopa, Linn. Syst. Nat. x. p. 476.

Occurs in Japan and Amurland, but apparently not common.

Melitæa maturna, Linn. Syst. Nat. x. p. 480.

M. maturna, var. *intermedia*, Mén. Schrenk's Reise, p. 22, t. ii.

M. intermedia, Bremer, Lep. Ost-Sib. p. 12.

Found at Khotoum by Maack, and at Schilka by Radde.

I have seen two specimens from the Ussuri in Dr. Staudinger's collection, which he considers the same as the European *M. maturna*, though larger.

M. aurinia, Rott. Naturf. vi. p. 5 (1775).

Found at Blagovestchensk by Hedemann, and at Schilka by Radde. It is, however, rare in Amurland.

Var. sibirica, Stdgr. Cat. p. 17 (1871).

This variety, found on the Upper Amur by Hedemann, somewhat resembles the variety *defontainesii* of Godart. Judging from the specimens I have seen, it can hardly be called "*pallidissima*."

M. didyma, Ochs. Schm. Eur. i. 1, 30 (1807).

Var. *didymoides*, Ev. Bull. Mosc. 1847, iii. p. 67, t. figs. 3, 4.

Ab. ♀ *latonigena*, Ev. loc. cit. p. 66, figs. 1, 2.

I have seen specimens of *M. didyma* from Raddefskaia and Baranofsky; also of the form *M. didymoides*, which Dr. Staudinger considers identical with *M. latonigena* from the Amur. De l'Orza includes this species in his list of Japanese Lepidoptera; but I have seen nothing which could be mistaken for it from Japan as yet.

M. dictynna, Esp. t. 48. fig. 2 *a*, *b* (1779).

Var. *protomedia*, Mén. Schrenk's Reise, p. 23, t. ii. figs. 6, 7.

Dr. Staudinger considers *M. protomedia* to be only the Eastern form of *M. dictynna*. It seems common at most places in the Amur region and variable, some of the specimens being hardly distinguishable from the European *M. dictynna*.

Melitæa arcesia, Br. Lep. Ost-Sib. p. 15, t. i. fig. 7.

Of this form, which Dr. Staudinger considers a good species, I have seen specimens from Raddefskaia (*Christoph*). It appears to be more common in Dahuria, where it was discovered by Radde.

M. phœbe, Schiff. S. V. p. 179.

Var. *sibirica*, Stdgr. MSS.
Var. *ætheria*, Ev. Lep. Ross. p. 73, t. ix.
M. scotosia, Butler, Cist. Ent. ii. p. 282 (1878).

The forms of *M. phœbe* found in Amurland are variable, but agree in being larger and darker than European specimens. It occurs at Pekin (*Bremer*) in the forms figured by Ménétriés as *M. melanina*, also in North China (*Ehrenkönig*), whence I have seen specimens in Dr. Staudinger's collection, also in Japan under the name of *M. scotosia*, agreeing with Amur specimens very fairly.

Bremer does not distinguish it from *M. phœbe*; but all the oriental specimens I have seen are large and brightly coloured.

M. trivia, Schiff. S. V. p. 179.

According to Ménétriés and Bremer this species was found on the Amur by Schrenk, and at Bureija by Radde; but Dr. Staudinger has seen none from the Amur region.

M. athalia, Rott. Naturf. vi. p. 5 (1775).

Var. *dubia*, Stdgr. MSS.
Var. *orientalis*, Stdgr. MSS.
M. niphona, Butler, Cist. Ent. ii. p. 281 (1878).

The forms of *M. athalia* found in Eastern Asia are somewhat different from the European ones; but the Japanese *M. niphona* is like those from Askold. The variety *M. orientalis* from the Ussuri differs, in the female sex, in having whitish instead of yellowish spots beneath. The variations, however, in the *Melitææ*, as in many insects, are hardly to be described in words, and can only be understood when seen. Even then the genus is an extremely puzzling one, and requires an immense series of specimens to illustrate it[1].

M. aurelia, Nick. Syn. Lep. Böhm. p. 12 (1850).

Dr. Staudinger has specimens of this from Ussuri and Raddefskaia, and considers them distinct from the following.

M. plotina.

M. britomartis, var. *plotina*, Brem. Lep. Ost-Sib. p. 14, t. iii. fig. 2.

Found at Raddefskaia and on the Ussuri, with the last, to which it comes nearest, though constantly differing in the pattern of the upper surface. It seems to me, however, to be very close to *M. aurelia*.

[1] Mr. Strecker has received a variety of *M. athalia* from Corea.

Melitæa maculata, Br. & Grey, Schmett. nördl. China, p. 7, t. i. fig. 3 (1853).

Argynnis leopardina, Lucas, Ann. Soc. Ent. France, 1866, p. 221, t. iii.

This curious insect seems to be the type of a new genus. Lucas says it forms a transition between *Argynnis* and *Melitæa*; but I have not seen specimens good enough to enable me to form an opinion. It has been found at Pekin only by Bremer and David. One specimen is in Pryer's Chinese collection, without indication of locality. Lucas figures both sexes, and says that the female differs in having the wings more rounded, the spots lighter, and the colour less brilliant. It is extremely rare in collections.

Argynnis niphe, Linn. Syst. Nat. xii. p. 785.

Seems rare in Japan, but commoner at Shanghai (*Pryer*).

A. childreni, Gray, Zool. Misc. p. 33 (1831).

Never seen by me; but Felder says that he received one female, larger and brighter than Indian specimens, from Ningpo.

A. selenis, Eversm. Bull. Mosc. 1837, i. p. 10.

Specimens from Raddefskaia do not quite agree with those from South Russia in Dr. Staudinger's collection. It has not been found in China, though recorded by Motschulsky from Japan.

A. selene, Schiff. S. V. p. 371 (1776).

Specimens from the Amur and Ussuri agree perfectly with European ones, though usually somewhat larger.

A. oscarus, Eversm. Bull. Mosc. 1844, iii. p. 588, t. xiv.

From Raddefskaia and Vladivostock. This appears to be most nearly allied to *A. euphrosyne*; but differs constantly from it in the absence of the silver spot on the middle band of the hind wing beneath. It is very rare at present in collections[1].

A. angarensis, Ersch, Bull. Mosc. 1870, i. p. 1.

Of this species I have only seen a single specimen in Dr. Staudinger's collection from Raddefskaia. The species, described as *Melitæa amphilochus*, Mén. Schrenk's Reise, p. 21, t. ii., has never been seen by Dr. Staudinger, who thinks it may probably be a variety of the last.

A specimen in Mr. Janson's collection from Japan is also nearly allied, but may belong to a new species.

A. freija, Thunb. Diss. Ent. ii. p. 34, fig. 14 (1791).

Found at Schilka and Raddefskaia. The Amur specimens are more like the Labrador than the Lapland form.

A. thore, var. borealis, Stdgr. Cat. i. p. 9 (1861).

From the Ussuri and Raddefskaia. Much paler than European specimens.

[1] Mr. Strecker has a species from Corea which is near *A. selene* and nearer to *A. myrina*, but which is neither *A. oscarus* nor *A. selene*. The black marks are all very large, but with no tendency to confluence.

Argynnis daphne, Schiff. S. V. p. 177 (1776).

A. daphne, Butl. Journ. Linn. Soc., Zool. ix. 1866; Lucas, Ann. Ent. Soc. France, 1866, p. 220.

A. rabdia, Butl. Ann. Nat. Hist. ser. 4, xix. p. 93.

Found at Pekin (*David*), Raddefskaia, Hakodadi, and Central Japan. It differs from the European *A. daphne* in being usually larger, darker, and, according to Mr. Butler, in having the outer margin of the fore wings concave rather than convex. He says that the palpi are also longer; but it appears to me that there is no reason for separating it as a species; and Dr. Staudinger concurs in this opinion. It appears to vary in the East as it does in Europe; and Mr. Butler himself says that the Hakodadi specimens are closer to *A. daphne* than those from Central Japan.

A. ino, Esp. t. lxxvi. fig. 1 *a*, *b* (1782).

Common in most localities where collections have been made in Amurland, and varies remarkably in size, some specimens being one half larger than others. De l'Orza quotes it from Japan; but I have seen nothing resembling it as yet from there.

A. aglaia, Linn. S. N. x. p. 481.

?*A. fortuna*, Jans. Cist. Ent. ii. p. 154 (1877).

Common at Askold, Vladivostock, and Baranofsky, and also found in Japan if I am right in uniting *A. fortuna* with it. I was disposed to consider this as a distinct species; but the characters on which Mr. Janson relies are broken down on comparison with the fine series in Dr. Staudinger's collection. I have also seen *A. aglaia* in the Atkinson collection from Kashmir. The Amur specimens are larger than the average of European ones; but this does not seem to be the case in the few Japanese specimens I have seen[1].

A. adippe, Linn. Syst. Nat. xii. p. 786.

Var. *chlorodippe*, Herr.-Schäff. vi. p. 5.
A. pallescens, Butl. Cist. Ent. i. p. 164 (1873).
A. vorax, Butl. Trans. Ent. Soc. 1871, p. 403; Lep. Ex. t. liv.
Var. *nerippe*, Feld. Wien. ent. Mon. vi. p. 24 (1862).
A. locuples, Butl. Ann. & Mag. Nat. Hist. ser. 5, vii. p. 134.
Var. *cleodoxa*, Ochs. iv. p. 118.

This very variable species has been described under a number of different names, one of which, I think (*A. nerippe*, Feld.), may be considered a well-marked variety or species. It occurs commonly in every part of this region where collections have been made. In China and Japan the variety *A. nerippe*, which is larger and brighter, most distinctly spotted with chocolate on the hind wings beneath, is found with it. Specimens from Japan (*A. pallescens*, Butl.) agree

[1] Mr. Strecker has received an *A. aglaia* from Corea which does not quite agree with Amur or European specimens. From the same place he has an exact transition form between *A. adippe* and *A. nerippe*, belonging as much to one as the other; two male specimens look at first like females, from the very broad round wings.

well with those from the Amur. The larger and brighter varieties agree with those from the Taurus (var. *taurica*, Stdgr.). The type of *A. vorax* from Shanghai which I have examined is undistinguishable from some Askold specimens; but other specimens from Askold are without silver spots beneath, like the European var. *cleodoxa*. Felder says that *A. nerippe* may be distinguished from *A. chlorodippe* by the wings being less dentate and by the marginal markings; but I should find it impossible at present to define any of these forms in such a way as to include all the intermediate ones. The females of *A. nerippe* differ more from the males than in the other varieties, and have a whitish mark on the costa near the apex of the fore wing.

Argynnis anadyomene, Feld. Wien. ent. Mon. vi. p. 25 (1862).

A. ella, Brem. Lep. Ost-Sib. p. 94, t. viii. fig. 1 (1864).

Seems to be common in Amurland and Japan, and occurs at Ningpo.

A. paphia, Linn. Syst. Nat. x. p. 481.

A. paphioides, Butl. Ann. & Mag. Nat. Hist. ser. 5, vii. p. 134.

Except that it is generally larger and the females rather darker in colour, there is no difference between the Japanese form described by Mr. Butler as *A. paphioides* and European specimens. It is common also in Amurland; but I have seen no specimens from China.

A. sagana, Doubl. Gen. t. xxiv. fig. 1, ♂ (1850).

A. paulina, Nordm. Bull. Mosc. 1851, iv. p. 440, t. xii. figs. 1, 2, ♀.

Found in Amurland, Japan, and China, and does not vary as far as I have seen. The female, as is now well known, is very different in colour from the male, and quite unlike any other species of *Argynnis*.

A. laodice, Pall. Reise, i. p. 470 (1771).

Var. *japonica*, Mén. Cat. p. 152, t. x.

Common in Amurland, Japan, and China. Usually larger than Russian specimens, and, if the form figured by Ménétriés were constant in Japan, easily distinguished from it by the colour of the underside. It varies, however, too much, I think, in this respect to be looked upon as more than a local variety.

A. ruslana, Motsch. Bull. Mosc. 1866, iii.

A. lysippe, Janson, Cist. Ent. 1877, p. 164.

This species comes very near the last; but may be distinguished by the shape of the fore wings, which are longer and less rounded than in *A. laodice*. There is also a good structural character shown me by Dr. Staudinger—namely, that three of the median veins of the fore wing in the male are dilated as in *A. paphia*, whilst in *A. laodice* only two are similarly developed. It is found at Raddefskaia, Askold, and Japan, the specimens agreeing perfectly together.

Danais tytia, Gray, Lep. Ins. Nep. p. 9, t. ix. fig. 2.

Found at Askold by Jankowsky, at Shanghai by Pryer, and in Japan.

Danais chrysippus, Linn. Mus. Ulr. p. 263 (1764).

Found in China and Japan, but not, as far as I know, in Amurland.

Danais limniace is found at Foochow, and may extend further north; but I have seen no specimens from Shanghai or Ningpo.

Thaumantis howqua, Westw. Trans. Ent. Soc. 1851, p. 174.

Stichophthalma howqua, Feld. Wien. ent. Mon. vi. p. 27 (1862).

This splendid species is found at Shanghai and Ningpo, and also in Formosa. It is the only representative of the Morphidæ occurring within my limits, though *Clerome eumæus* occurs in South China.

Debis europa, Fabr. Syst. Ent. p. 500 (1775).

Occurs at Kiukiang (*Maries*), and possibly elsewhere. A specimen in the Hewitson collection from Amoy resembles the variety *nilgherriensis*, Guér.

Melanitis leda, Linn. Syst. Nat. i. p. 773 (1767).

Found in Nikko, Japan, by Maries, and in Formosa; but I have seen no specimens from Central or North China.

Melanargia (Arge) halimede, Mén. Schrenk's Reise, p. 37, t. iii. figs. 6, 7.

Var. *meridionalis*, Feld. Wien. ent. Mon. vi. p. 29 (1862).

The type form of this distinct species is found commonly at Askold and elsewhere in Amurland. It occurs also at Moupin in East Tibet, according to Oberthür, in a paler form. At Shanghai and Ningpo is found the curious melanism described by Felder as *M. meridionalis*, four specimens of which, in Pryer's collection, though varying in the intensity of their blackness, are all remarkably different from the northern form.

Mycalesis gotama, Moore, Cat. Lep. E.I.C. i. p. 232 (1857).

Sadarga gotama, Moore, Trans. Ent. Soc. 1880, p. 158.

Found in Japan and China, where it seems common at Shanghai. Specimens from Silhet in the British Museum, marked "*ostrea*, Westw.," agree nearly with this, but are rather larger.

M. perdiccas, Hew. Ex. Butt. iii. *Myc.* t. iii. fig. 15 (1862).

Gareris perdiccas, Moore, Trans. Ent. Soc. 1880, p. 157.

? *M. sangaica*, Butl. Ann. Nat. Hist. ser. 4, xix. p. 95.

Martanda sangaica, Moore, Trans. Ent. Soc. 1880, p. 169.

This species is distinguished from the last by the band on underside of wings having a blue-grey instead of a yellowish tinge.

It seems common at Shanghai and in Japan.

Specimens in the British Museum from Nankow Pass, between China and Mongolia, seem to belong to this species; and I am doubtful as to separating *M. sangaica*, the type of which from Shanghai I have seen. This species, however, is considered distinct,

and placed in a different genus by Moore in his recent paper on the genus.

Yphthima baldus, Fab. Syst. Ent. p. 323 (1793).

? *Y. argus*, Butl. Journ. Linn. Soc., Zool. ix. p. 56 (1866).

I follow Dr. Staudinger in considering the common Amur species as *Y. baldus*, Fab., though in such a genus it is difficult to be sure. I think there is little doubt that the Japanese *Y. argus* is identical with the Amur insect, though the underside, as a rule, is paler.

It appears to be common in Japan.

Y. motschulskyi, Brem. & Grey, Schmett. nördl. China, p. 8 (1853).

Satyrus motschulskyi, Mén. Cat. Mus. Petr. t. vi. fig. 5.

Distinguished from the last by having one ocellus on the upperside of hind wing instead of two or three, and three on the underside, of which that at the anal angle is double. It is extremely near to, if not identical with, *Y. nareda*, Moore, from the N.W. Himalaya. Specimens referred to this latter species are in Dr. Staudinger's collection from Japan; and a Himalayan specimen referred to *Y. motschulskyi* is in the British Museum. It occurs also at Pekin; and a very similar, though smaller form, is in Pryer's collection from Shanghai.

? Y. amphithea, Mén. Schrenk's Reise, p. 41, t. iii. fig. 10.

Nothing is known of this species except Ménétriés's figure and description, based on a single specimen from the Amur. I very much doubt whether it can be recognized in life.

Y. zodia, Butl. Trans. Ent. Soc. 1871, p. 402.

A small species with the underside of the hind wings very pale, and the ocelli reduced to mere points. It comes very near *Y. methora* from India, and is perhaps hardly separable. It is found in the Snowy Valley, hills of Ningpo, whence I have three specimens collected by Pryer.

Y. evanescens, Butl. Ann. & Mag. Nat. Hist. ser. 5, vii. p. 134, from Nikko, Central Japan, seems to be a mere synonym of this—though, as it is described from a single specimen, it is impossible to say with certainty. It is described as resembling "*Y. lisandra*, Cr., above, and *Y. zodia* beneath; the ocelli arranged as in *Y. stellera*."

Y. megalomma, Butl. Cist. Ent. i. p. 236 (1874).

This really does seem to be a good and distinct species, easily known from any I have seen by its shape and large ocelli.

Discovered by Pryer on the Ningpo hills.

Palæonympha opalina, Butl. Trans. Ent. Soc. 1871, p. 404; Lep. Ex. p. 86, t. xxxiii. fig. 3.

This genus appears to be peculiar to Central China. It was discovered by Pryer at the same time and place as the last (see Ent. Month. Mag. 1877, p. 53).

Erebia medusa, Schiff. S. V. p. 167 ; Fab. Mant. 40 (1787).

A single specimen in Dr. Staudinger's collection is all I have seen of this species, which was not found by Radde or Schrenk in Amurland. This one was collected by Hedemann, probably between Schilka and Blagovetschensk, and agrees with European examples.

E. parmenio, Böb. Nouv. Mém. Mosc. ii. p. 306 (1809).

This species somewhat resembles *E. afra*, Esp., beneath, but has very differently shaped wings. It was found on the Amur by Maack, and at Schilka by Radde.

E. sedakovii (Ev.), Bull. Mosc. 1847, ii. p. 70, t. i. figs. 5, 6.

E. niphonica, Jans. Cist. Ent. ii. p. 153, t. v. fig. 5 (1877).

I have compared Japanese specimens from Mr. Janson with some of *E. sedakovii* in Dr. Staudinger's collection, and find that they are the same. It occurs on Mount Assamayama at 7000 feet, and in Nikko. Radde found it on the Apfelgebirge, and Hedemann at Habarofka. It is more nearly allied to *E. æthiops*, Esp. (*Medea*), than to *E. stygne*, with which Janson compares it.

E. discoidalis, Kirby, Faun. Bor.-Amer. p. 298, t. iii. figs. 2, 3.

This species, though hardly coming within the limits of my present work, is recorded by Ménétriés as having been found by Maack at Oujan, on the Sea of Ochotsk. I have specimens of it from Mr. H. Strecker, taken at Fort York, British Columbia, and also from Hudson Bay, through Herr Möschler. They agree very well together, and appear most nearly allied to *Erebia glacialis*, Esp., though very different on the underside.

E. cyclopius, Ev. Bull. Mosc. 1844, iii. p. 590, t. xiv. fig. 3 *a*, *b*.

E. cyclopides (laps. cal.), Brem. Lep. Ost-Sib. p. 19.

Found at Raddefskaia, Blagovestchensk, Schilka, and elsewhere in Amurland. This, with the next three or four species, form a group of large dark-coloured *Erebiæ* peculiar to North-eastern Asia.

E. tristis, Brem. Bull. Acad. 1861, iii.

E. wanga, Brem. Lep. Ost-Sib. p. 20, t. ii. fig. 1.

Bremer changes the name *E. tristis*, which he had first given to this insect, as it had previously been applied by Herrich-Schäffer ; but as his *E. tristis* (t. 387–390) is a synonym of *E. eriphyle*, Freyer, it can be retained for the present species. It seems to be common on the Amur, and is found in the Bureija Mountains.

E. saxicola, Oberthür, Et. Ent. ii. p. 32, t. iv. fig. 1.

Found by Abbé David on the Ourato Mountains, Mongolia. Seems to be allied to *E. tristis*, but distinct.

E. ero, Brem. Lep. Ost-Sib. p. 20, t. xi. fig. 2.

Found by Radde on the Apfelgebirge. Allied to *E. disa*, but differs in having the underside spotted with white.

Erebia edda, Mén. Midd. Reise, t. iii. f. 2 (1851).

Found at Schilka by Radde. Of the same group as *E. tristis*, to which it is allied; but the ocelli differ in colour.

E. ajanensis, Mén.

E. ligea, var. *ajanensis*, Mén. Cat. Mus. Petr. 104.
E. eumonia, Mén. Schrenk's Reise, p. 34, t. iii. fig. 4.

Of this species, which was taken at Hadshi, on the coast of Mantchuria, in lat. 49°, and at Nikolaiefsk, I have seen no specimens; but, from the plate, it is evidently nearly allied to *E. ligea*.

E. embla, Thunb. Diss. Ent. ii. p. 38, t. viii. fig. 8 (1791).

Does not occur in Amurland, but was found on the Sea of Ochotsk by Maack.

Œneis (=Chionobas) sculda (Ev.), Bull. Mosc. 1851, i. p. 612.

Found by Hedemann on the Upper Amur, but not included in Ménétriés's or Bremer's works. A species, or perhaps a variety of this, is in Dr. Staudinger's collection, collected by Hedemann.

Œ. jutta, Hb. t. 914–5.

Found by Maack, according to Bremer, on the south side of the Amur, but not seen by Dr. Staudinger.

Œ. urda (Ev.).

Hipparchia urda, Ev. Bull. Mosc. 1847, ii. p. 69, t. ii. figs. 1–4.
Chionobas nanna, Mén. Schrenk's Reise, p. 38, t. iii. fig. 5.

Seems not uncommon at Blagovestchensk, Raddefskaia, and elsewhere in Amurland.

Œ. mongolica, Oberthür, Et. Ent. ii. p. 31, t. iv. fig. 6 (1876).

Found in the mountains of Eastern Mongolia by Abbé David. Seems very nearly allied to *Œ. tarpeia*.

Satyrus dryas, Scop. Ent. Carn. p. 153 (1763).

S. bipunctatus, Motsch. Et. Ent. ix. p. 29.
Var. *sibirica*, Stdgr. Cat. p. 29.

Found in the Bureija Mountains, and common on the coast-region of Amurland; also common in Japan. The Japanese form agrees very fairly with European examples, though generally larger and more strongly marked.

The form found at Askold is the var. *sibirica*, Stdgr., and differs, as a rule, in having the markings of the underside almost obsolete.

The form described as *S. bipunctatus* by Motschulsky I presume to be merely an aberration of *S. dryas*, with two spots on the hind wings. I have seen one or two specimens which have them.

Pararge achine, Scop. Ent. Carn. p. 156 (1763).

P. achinoides, Butl. Cist. Ent. ii. p. 283 (1877).

Found at Baranofsky, Raddefskaia, and Askold, also in Japan.

The Japanese form *P. achinoides*, Butl. (though this name should perhaps be ignored, as having been given to a drawing), is not materially different from Amur or European specimens, though it usually has larger ocelli.

Pararge deidamia (Ev.), Bull. Mosc. 1851, i. p. 617.

P. ménétriésii, Brem., Mots. Et. 1852, p. 59; Brem. & Grey, Schmett. nördl. China, p. 8; Mén. Cat. Mus. Petr. t. vi. fig. 4.

Found in Amurland at Raddefskaia, also in North and Central Japan, and at Chefoo by Pryer. A female specimen from Japan agrees very well with Ménétriés's figure.

P. maackii, Brem. Lep. Ost-Sib. p. 22, t. iii. fig. 2.

Lasiommata marginalis, Motsch. Bull. Mosc. 1866, i. p. 190.

From Ussuri and Baranofsky in Amurland; found also at Tokio, Japan, by Fenton.

Epinephele hyperanthus, Linn. Syst. Nat. x. p. 471.

Common in Amurland, where the type is larger, with larger spots than in Europe. At Askold, however, it agrees very well with the French type, according to Oberthür. It is included by Murray in his list of Japanese insects; but I do not know on what authority.

Lasiommata bremeri, Feld. Wien. ent. Mon. vi. p. 28 (1862).

Described from Ningpo. I have never seen a specimen of this species.

Lethe syrcis, Hew. Ex. Butt. iv. *Deb.* t. iii. figs. 13, 14; Oberthür, Et. Ent. vi. t. vii. fig. 3.

This species appears not uncommon in Central China. I have specimens from Ningpo; and it occurs at Shanghai (*Swinhoe*) and at Kouytcheou (*Largeteau*).

L. lanaris, Butl. Ann. & Mag. Nat. Hist. ser. 4, xix. p. 95.

The type of this species, which I have seen, is from the Ningpo hills, and what I believe is the same species is in the Hewitson collection from Amoy.

L. satyrina, Butl. Trans. Ent. Soc. 1871, p. 402.

The male of this species is in Mr. Godman's collection from Chekiang; and the female is in the British Museum. It seems to be a form intermediate between *Lethe* and *Mycalesis*.

L. epimenides, Mén. Schrenk's Reise, p. 39, t. iii. figs. 8, 9.

Neope fentoni, Butl. Ann. & Mag. Nat. Hist. ser. 4, xix. p. 91.

Not uncommon in various parts of the Amur region, and also found in Central Japan. I see no difference of importance between them.

A variety of this species is distinguished as var. *epaminondas*, Stdgr. MSS., from Raddefskaia, Baranofsky, and Blagovestchensk. It differs in its smaller size and more yellowish tint.

Butler says "there can be no question that whereas the male of *L. epimenides* figured by Ménétriés is a *Pararge*, the female is a *Neope* near *N. gaschkevitschii*, and is nearer to *Neope callipteris* than to the male associated with it." I can only say that the figures in question are very faithful ones of the two sexes as sent me by Dr. Staudinger; and if there can be no question that they belong to different genera, as Mr. Butler thinks, the sooner the two genera are united the better.

Lethe sicelis, Hew. Ex. Butt. iii. *Deb.* t. i.

Found in the Ningpo hills by Pryer and in Japan, though seemingly not common.

L. (Pronophila) schrenki, Mén. Schrenk's Reise, p. 33, t. iii. fig. 3.

Of this fine species I have specimens agreeing very well from Raddefskaia and other parts of Amurland, and from Central Japan. It was found also in Yesso by Maries. It seems to belong to the same genus as *L. epimenides*.

L. diana, Butl. Journ. Linn. Soc., Zool. ix. p. 55 (1866).

Common in Central Japan.

L. whitelyi, Butl. Ann. & Mag. Nat. Hist. ser. 3, xix. p. 403, t. ix. fig. 8.

From various parts of Japan. The markings are similar to the last; but the whole insect is darker.

? L. consanguis, Butl. Ann. & Mag. Nat. Hist. ser. 5, vii. p. 133.

I think that this, of which I have seen the type, is only a variety of the last. It differs in the brighter zones of the ocelli.

Neope gaschkevitschii, Mén. Cat. Mus. Petr p. 121, t. x. fig. 4 (1855).

Common in Japan, but not found in Amurland to my knowledge. Felder says it occurs at Ningpo.

A variety or species is described as *N. niphonica*, Butl. Ann. & Mag. Nat. Hist. ser. 5, vii. p. 133. From Tokio.

I am very doubtful whether this can be considered distinct; but if it is, it must bear the name of *N. gaschkevitschii* instead of the commoner form generally known as such; for it agrees exactly with Ménétriés's excellent figure in the points in which *N. niphonica* is said to differ from the common form.

N. callipteris, Butl. Ann. & Mag. Nat. Hist. ser. 4, xix. p. 92.

370 miles from Tokio (*Fenton*), Nikko (*Maries*).

This species seems to me more nearly allied to *Lethe* than to *Neope*, and, like the next species, is very similar in form and markings to some of the Himalayan Satyridæ.

Neope? muirheadi, Felder, Wien. ent. Mon. vi. p. 28 (Jan. 1862).

? *Debis segonax*, Hew. Ex. Butt. iii. *Debis*, t. i. (June 1862).

? *N. segonacia*, Oberthür, Et. Ent. vii. fig. 4. Kiangsi.

These names all appear to refer to one species, of which three specimens from Ningpo are in Pryer's collection.

Triphysa nervosa, Motsch. Bull. Mosc. 1866, p. 189.

I know nothing of this species, and have seen no specimens of the genus from Japan.

T. albovenosa, Ersch, Horæ Ent. 1877, p. 336.

I have seen typical specimens in Dr. Staudinger's collection from Schilka and Blagovetschensk. There are also two specimens, collected by Hedemann in Amurland, which are intermediate between this species and *T. phryne*, of which perhaps *T. albovenosa* is an extreme development.

Cœnonympha œdipus, Fab. Mant. 31 (1787).

C. annulifer, Butl. Ann. & Mag. Nat. Hist. ser. 4, xix. p. 91.

This species occurs generally in Amurland and also locally in Japan. The only difference worth noticing between Japanese and European specimens is the larger size of the ocelli, which in such a variable species is a character of very slight importance.

C. amaryllis, Cram. Pap. Ex. t. 391.

Found generally in Amurland and also at Chefoo by Pryer, and at Pekin (*fide Bremer*).

I found no specimens in Dr. Staudinger's collection quite agreeing with the figure of *C. rinda*, Mén. Schrenk's Reise, p. 42, t. iv. fig. 1, which is probably taken from a faded specimen. A single one only was taken on the Amur by Maack.

C. hero, Linn. Faun. Suec. 271.

Found at Raddefskaia and on the Ussuri[1].

Var. perseis, Led. Ver. zool.-bot. Ges. Wien. 1853, p. 360.

Of this larger paler form I have specimens from Amurland. It is found also at Askold.

C. iphis, Schiff. S. V. p. 321.

Included by Bremer, who says it was found at the Bureija and Apfelgebirge by Radde; but Dr. Staudinger has never seen specimens from Amurland.

Casyapa thrax, L. Syst. Nat. ii. p. 794 (1767); Don. Ins. Ind. t. 49.

One specimen from Foochow (*Pryer*).

[1] Mr. Strecker has specimens from Corea larger, darker below, and with much larger ocelli than European specimens.

Tagiades nymphalis, Speyer, Stett. ent. Zeit. 1879, p. 348.

This fine large species is described from three specimens taken at Vladivostock. Speyer states that it differs slightly from Chinese specimens. The species resembles *Satarupa gopala*, Moore, from Sikkim, in the size, shape, and marking of the fore wings; but the hind wings are very different.

I have seen it from N. China in Dr. Staudinger's collection.

Ismene benjamini, Guér. Deless. Sonn. Inde, ii. p. 79, t. 22.

I. benjamini, var. *japonica*, Murr. Ent. Mo. Mag. 1875, p. 4.

Specimens from Japan (*Pryer*) and Ningpo (*Pryer*) agree with each other and hardly vary from the Himalayan insect, though the yellow and black markings on the anal angle below are not usually so bright or conspicuous.

I. septentrionalis, Feld. Reise, Nov. p. 525, t. 73. fig. 3 (? 1866).

I. striata, Hew. Ex. Butt. v. t. 43. figs. 6, 7 (? 1867).

This species, described from Shanghai (*Muirhead*) and from China (*Hewitson*), I have not seen; but the figures quoted seem to agree very well. The species is easily distinguished from *I. benjamini* by the absence of the anal markings and the banded body. The coloration of its upper surface (not figured by Felder) is nearer that of the following.

I. aquilina, Speyer, Stett. ent. Zeit. 1879, p. 346.

I. jankowskii, Oberthür, Et. Ent. v. p. 23, t. i. fig. 2 (1880).

Vladivostock, Askold (*Jankowsky*); Japan (*Mus. Brit. & Hew.*).

The species is plain brown in colour, with pale indistinct patch on the fore wing. It is allied to *I. harisa*, Moore, from Sikkim, though quite distinct.

Hesperia? alexis, Fab., Butler, Fab. Ins. p. 269, t. iii.

A specimen which agrees very fairly with Butler's plate is in Pryer's collection from Shanghai.

The whitish band of hind wing below is very faint, except where it joins the dark spot at anal apex; and the insect closely resembles a specimen from Queensland (*MacLean*) in Mus. Godman and Salvin.

Plesioneura curvifascia, Feld. Wien. ent. Mon. vi. p. 29 (1862).

From Ningpo (*Muirhead*). Said to be near *P. feisthamelii*, Boisd., from the Moluccas.

P. bifasciata, Brem.

Eudamus bifasciatus, Br. & Grey, p. 10 (1853).
Gonoloba bifasciata, Mén. Enum. t. v. fig. 3 (1855).

A species I know only from the plate. It was found near Pekin (*Bremer*).

Plesioneura phodicus, Hew.?

I cannot find any reference to the description of this species, which was so named in Pryer's collection.

From China, without any locality indicated; other specimens are in Godman and Salvin's collection, marked Mongolia.

It is nearly allied to *Satarupa sambara*, Moore, P. Z. S. 1865, p. 781, which has very similar markings, though larger and otherwise distinct.

Pterygospidea maculosa, Feld. Reise Nov. p. 528, t. 73. no. 7 (1867).

Described from Shanghai. In Hewitson's collection this species has been identified with *Plesioneura pulomaya*, Moore, from Sikkim; but Chinese specimens of what I believe is Felder's species differ considerably from *P. pulomaya* in the marking of the hind wings beneath.

P. sinica, Feld. Wien. ent. Mon. vi. p. 39 (1862).

Ningpo.

? *Daimio felderi*, Butl. Ann. & Mag. Nat. Hist. ser. 4, vii. p. 140.

Japan (*Maries*).

I do not know whether I am right in uniting these, but the Japanese insect, which I have seen, appears to agree fairly with Felder's description and agrees with an insect from Ningpo in Pryer's collection.

Daimio tethys, Murr.

Pyrgus tethys, Mén. Enum. p. 126, t. x. fig. 8 (1855).

Daimio tethys, Murr. Ent. Mo. Mag. 1875, p. 17 .

Pyrgus tethys, Oberthür, Et. Ent. v. p. 24.

Japan (*Pryer*), Askold (*Jankowsky*), N. China (*David*).

Murray creates the genus *Daimio* for this insect, on account of the formation of the antennæ and palpi.

It is common in Japan; and I have also specimens from Askold and N. China. It is very variable in size and in the markings of the hind wings, which in some specimens have an ill-defined transverse white band.

M. Oberthür says he has varieties from North China and Amurland, which I should imagine from the description may be intermediate between this species and the last.

Antigonus vasava, Moore, P. Z. S. 1865, p. 786.

Described from Darjiling. A single specimen is in Pryer's collection from Shanghai; and it is reported to occur in Japan.

Pamphila mencia, Moore, Ann. & Mag. Nat. Hist. ser. 4, xx. p. 52.

Of this obscure species I have only seen one specimen, from Shanghai, collected by Pryer. Moore says the wings are much broader than in *P. sinensis*, Mabille, and the hind wing not lobed. Of this *P. sinensis* I know nothing, and can find no published description of it.

Pamphila mathias, Fabr. Ent. Syst. Suppl. p. 433 (1798); Butl. Cat. Fabr. t. iii. fig. 6.

It is difficult to understand the group of species of which I take this as the type. They are numerous and variable, and their synonymy and distribution most puzzling. A number of supposed species are included in Hewitson's and other collections under the name of *P. mathias*, which, if I have rightly identified it, has a group of transparent spots on fore wing and on the hind wing a group of small ones which do not show on the upper surface.

I have seen it from Shanghai (*Pryer*) and from Japan.

P. lamprospilus.

Isoteinon lamprospilus, Feld. Wien. ent. Mon. vi. p. 38 (1862).
Pamphila vitrea, Murr. Ent. Mo. Mag. 1875, p. 171.

I believe this identification is correct, though I have not seen Chinese specimens. It is described by Felder from Ningpo, and seems common in Japan. It is distinguished by a group of large transparent spots showing through the fore wing, and by nine small ones showing only on the underside of the hind wing.

? P. oceia, Hew. Desc. Hesp. p. 31 (1868).

An insect so named in Pryer's collection from Shanghai does not agree with Hewitson's description.

It is of the size and shape of *P. mathias*, with eight transparent spots on the fore wing and a black tuft of hairs on the centre of hind wing, but no spots.

P. oceia is described from the Philippines.

P. varia, Murr. Ent. Mo. Mag. 1875, p. 172.

This species is known by the colour of the underside, which is ochraceous with darker veins. It seems common in Japan; but I have seen no specimens from elsewhere.

P. guttata.

Eudamus guttatus, Brem. & Grey, Schmett. nördl. China, p. 10 (1855).
Gonoloba guttata, Mén. Cat. Mus. Petr. t. v. fig. 4 (1857).

Common in Japan. Found also at Shanghai (*Pryer*) and Pekin (*Bremer*).

It belongs to the group of olive-coloured *Pamphilæ* having transparent spots on the fore and hind wings.

P. fortunei, Feld. Reise Nov. t. 72. fig. 11.

From Shanghai. I have not seen this; but, judging from the figure, it is very near *P. guttata*.

P. pellucida, Murray, Ent. Mo. Mag. 1875, p. 172.

Very near the last; but distinguished by the spots of the hind wing being arranged in an alternate line instead of a straight row

as in *P. guttata*. All the specimens I have seen are from Japan, where it seems common.

Pamphila jansonis, Butl. Cist. Ent. ii. p. 284 (1878).

Mr. Butler says this insect is widely distinct from the last; but the type in the British Museum seems very similar to it, though in some specimens the spots on the hind wings are partly obsolete.

P. confucius, Feld. Wien. ent. Mon. vi. p. 29.

From Ningpo (*Muirhead*).

I have not seen this species, which is said to be near *P. augias*, Linn.

Hesperia sylvanus, Esp. t. xxxvi. fig. 4.

? *Pamphila herculea*, Butl. Ann. & Mag. Nat. Hist. ser. 5, vol. vii. p. 140.

? *Hesperia subhyalina*, Br. & Grey, p. 10; Mén. Cat. Mns. Petr. t. v. no. 7.

? *Hesperia venata*, Br. & Grey, p. 11; Mén. loc. cit. no. 8.

The forms of *H. sylvanus* found in China, Japan, and Amurland are usually larger than the European ones; but in Dr. Staudinger's opinion we are not justified by our present knowledge in keeping them separate. Specimens of *H. sylvanus* from Astrabad in his collection agree with Ménétriés's figure of *H. subhyalina* and with specimens I possess from Japan and China, also with forms of *H. sylvanus* from Baranofsky and Raddefskaia.

H. venata, Brem., as figured, seems to be an aberration of *H. sylvanus*; but may be a distinct species. Dr. Staudinger has a specimen quite like the figure but smaller, collected by Hedemann in Amurland.

I have seen the type of *H. herculea*, which is, I think, a Japanese form of *H. sylvanus*.

H. sylvatica, Brem. Lep. Ost-Sib. p. 34, t. iii. fig. 10.

Found in various parts of Amurland and at Tokio.

It is a small species allied to *H. actæon* of Europe, but with paler disks margined with brown and the underside marked with conspicuous dark veins.

Very near it is

H. leonina, Butl. Cist. Ent. ii. p. 286 (1878).

According to Mr. Butler, this is "markedly distinct;" but, except that it is brighter in colour and less overlaid with brown, I do not see much to distinguish it.

H. ochracea, Brem. Lep. Ost-Sib. p. 33, t. i. fig. 11.

Allied to the last two, but distinct. I have it from Japan, Askold, and Raddefskaia. Near it is

H. rikuchina, Butl. Cist. Ent. ii. p. 285 (1878).

According to Mr. Butler, "a very distinct species;" but I can

see nothing in his description, or in the specimen which I have of it, to justify this remark.

Hesperia lineola, Ochsen. i. p. 230.

From Ema (*Maack*), and Baranofsky (*Dörries*).

Those seen in Dr. Staudinger's collection agree with European examples.

H. comma, Linn. Syst. Nat. x. p. 484.

?*Pamphila florinda*, Butl. Cist. Ent. ii. p. 285 (1878). From Japan.

As far as I can judge from the type specimen, this is only a variety of *H. comma*, larger and with the spots indistinct.

Two specimens from Baranofsky and the Amur appear to resemble the Japanese insect, though I have not been able to compare them.

H. flava, Murray, Ent. Mo. Mag. xii. p. 4 (1875).

Nearly allied to a species from Sikkim. I have it from Shanghai and Japan.

A specimen in Mr. Janson's collection from Japan, named *P. sunias*, Feld., by Moore, is very near this, and only differs slightly in the markings of the hind wings.

H. maro, Fab. Ent. Syst. Suppl. p. 432.

Cyclopides maro, Butl. Cat. Fabr. t. ii. fig. 12.

Specimens from Shanghai in Pryer's collection which are named *Pamphila dara*, Koll., agree fairly with the figure of what Butler considers to be *P. maro*, Fab., from Ceylon. It is allied to *P. dara*, Koll., from the Himalayas, to *P. camertes*, Hew., from Singapore, and *P. mæsa*, Moore.

There is a single specimen, not fresh enough for identification, of a species allied to this, in Mr. Pryer's Shanghai collection. It has the yellow spots on the wings very much smaller.

Carterocephalus palæmon, Pall. Reise, i. p. 471 (1771).

Found by Radde at Bureija, and on the upper Amur by Hedemann.

C. sylvius, Knoch, Btr. t. 5. figs. 1, 2 (1781).

Found at Schilka and Bureija by Radde, and at Raddefskaia by Christoph.

C. argyrostigma, Evers. Bull. Mosc. 1851, ii. p. 624.

Found at Onon by Radde, and on the upper Amur by Hedemann.

Cyclopides morpheus, Pall. Reise, i. p. 471 (1771).

From Baranofsky and the Ussuri.

C. ornatus, Brem. Lep. Ost-Sib. p. 33, t. ii. fig. 5.

Seems rare in Amurland, but found by Radde at Bureija, and at

Raddefskaia by Christoph. It is easily distinguished by two silver longitudinal bands on the underside of the hind wing.

Carterocephalus unicolor, Br. & Grey, Schmett. nördl. China, p. 10; Mén. Cat. Mus. Petr. t. v. fig. 6.

This species, found at Pekin, differs from the last in the pale ochreous colour of the underside of the hind wings, on which the silver bands are absent. I have seen several specimens from Japan which appear to me to agree very well with this species, though there is some indication of the silver stripes. They come nearer to *C. unicolor* than to *C. ornatus*.

Pyrgus inachus, Mén. Schrenk's Reise, p. 46, t. iv. fig. 2.

Rare in Amurland, whence I have only seen two or three specimens in Dr. Staudinger's collection. Specimens from Japan collected by Jonas agree with it; but two from Shanghai in Pryer's collection differ in the size, shape, and markings. They are not, however, fresh enough to describe.

P. gigas, Brem. Lep. Ost-Sib., Nachtrag, p. 96, t. viii. fig. 3.

Of this species, the largest of all the Palæarctic species, I have seen specimens from Askold and Vladivostock. Dr. Staudinger thinks it may possibly be a variety of *P. tessellum*; but it is much larger and darker, and seems sufficiently distinct.

P. speyeri, Stdgr. MSS.

This species, found at Baranofsky by Dörries, belongs to the group of *P. alveus*. Dr. Staudinger thinks it may be a variety of it, near *P. fritillum*, Hb.

P. cribellum, Ev. Bull. Mosc. 1841, p. 25.

Specimens in the Hewitson collection from Amurland, and in Dr. Staudinger's collection, vary very slightly from the European form.

P. alveus, Hb. t. 401–3.

One specimen from Blagovetschensk in Dr. Staudinger's collection is considered by him to be the same as *P. alveus*.

P. serratulæ, Ramb. Fn. And. t. viii. fig. 9.

Found at Bureija by Radde; and one specimen from Amurland is in Dr. Staudinger's collection.

P. malvæ, Linn. Syst. Nat. x. p. 485.

Found at Bureija by Radde; and two specimens are in Dr. Staudinger's collection from Schilka.

P. orbifer, Hb. t. 803–6.

Bremer says it was taken at Bureija by Radde; but Dr. Staudinger has seen no specimens from Amurland.

Pyrgus cynaræ, Ramb. Fn. And. t. viii. figs. 4, 5.

Found by Radde on the Onon according to Bremer; but Dr. Staudinger has never seen Amur specimens.

Syrichthus maculatus, Br. & Grey, Schmett. nördl. China, p. 11.

Pyrgus maculatus, Mén. Cat. Mus. Petr. t. v. no. 5.

P. sinicus, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xix. p. 96.

The specimens from Shanghai, described by Mr. Butler as *P. sinicus*, differ somewhat from Amur specimens in having the outer band of spots on the hind wing indistinct or absent. A Japanese specimen is intermediate in these respects. I should have been inclined to look on it as a good local variety or species; but Dr. Staudinger thinks it only an aberration of *S. maculatus*. The latter is common in Amurland.

Scelothrix zona, Mab. Bull. Ent. Soc. Fr. 1875, p. ccxiv.

Described from specimens collected by David at Pekin, which seem from the description very near *S. maculatus*. I have never seen this insect.

Nisoniades tages, Linn. Syst. Nat. x. p. 485.

Found at Schilka and on the Amur by Radde (*fide* Bremer), and mentioned by Bremer from Pekin, but never seen from the Amur by Dr. Staudinger.

N. montanus, Brem. Lep. Ost-Sib. p. 31, t. xi. fig. 4.

N. rusticanus, Butler, Journ. Linn. Soc., Zool. ix. p. 58 (1866).

Specimens of this species from Askold, Japan, and Shanghai agree very well with each other. The female is distinguished by a pale band across the fore wing.

November 29, 1881.

Dr. A. Günther, F.R.S., V.P., in the Chair.

The following extract was read from a letter addressed to the Secretary by Dr. A. Frenzel, of Freiberg, Saxony:—

"Being informed by my friend Dr. Meyer, of Dresden, that he has mentioned in his communication on *Eclectus riedeli* that I have been endeavouring for some time to induce birds of this genus to breed in my aviary, but without success until recently, I beg to state that since the 31st of October a young *Eclectus* (or young *Eclecti*) have been living in my aviary. I cannot decide whether there is only one or two, because the breeding-box is fastened in such a way that I cannot get to it without disturbing the birds.

"The parents are a green *Eclectus polychlorus* and a red *Eclectus grandis*. The green one, the father, feeds the red one, the mother; and she, again, feeds the young.

"I hope to be able to send you soon a detailed account of this experiment, which is, so far as I am aware, the first successful one, and which will put Dr. Meyer's discovery as to the sexual differences of *Eclectus* beyond any doubt."

The following papers were read :—

1. On a new Species of *Eclectus* from the Timorlaut Islands. By A. B. Meyer, M.D., C.M.Z.S., Director Royal Zoological Museum, Dresden.

[Received October 18, 1881.]

In a collection of birdskins which Mr. Riedel, the well-known Dutch Resident formerly at Gorontalo and Timor Kupang, and now at Amboina, has recently sent to the Dresden Museum from the islands of Sumba, Timor, and the smaller ones to the east as far as Aru, and on which I hope to be able soon to publish some notes, I immediately perceived, when unpacking them, the skin of a red *Eclectus* which differs from all others known to me.

It may be described thus :—

Eclectus riedeli, sp. nov.

Fœm. *Capite et collo coccineis; dorso, uropygio, supracaudalibus, tectricibus alarum, remigibus secundariis externe, subalaribus minoribus, pectore et abdomine rubro-puniceis; margine alarum et pogonio externo remigum primariorum cyaneis; subcaudalibus caudæque apice pulchre flavis; cauda supra rubro-punicea, subtus flava, basin versus aurorescente; rostro pedibusque nigris. Long. tot. circa* 360 *millim., al.* 220, *caud. circa* 130, *rostri* 30 (*culmin.* 40), *tarsi* 20.

Hab. in ins. Timorlaut: Cera.

Although no sex has been assigned to the specimen by the hunter, I nevertheless, judging from analogy, do not doubt the least that it is the female of a green *Eclectus* which still remains to be discovered; besides, on raising the red feathers, green spots and greenish tints come into appearance here and there.

Eclectus riedeli resembles *E. cornelia*, Bp. (P. Z. S. 1849, pl. xi.), with the exception of the tail and under tail-coverts, which are rather those of *E. roratus* (P. L. S. Müll.) female (*E. grandis* auct.), with the difference only that the underparts of the tail are more yellowish than reddish. Its specific difference from the last-named bird is obvious at a glance, there being no violet at all on the back and belly in *E. riedeli*; and the same character distinguishes it from *E. cardinalis* (Bodd.) female, as well as from *E. pectoralis* (P. L. S. Müll.) female (*E. linnæi* auct.), from which last species it stands furthest apart. The red hue of the head differs somewhat from that in all three species named. I cannot compare this hue with that of *E. cornelia*, of which no specimen is within my reach; and as to the